Red Hat
Ansible Automation
Platform

Simplifying Automation with Red Hat Ansible Automation Platform

An introduction to automating everything with Ansible

Red Hat
Training

Housekeeping

- Timing
- Breaks
- Takeaways

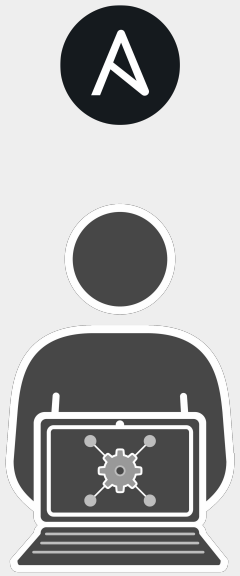
What you will learn

- Introduction to Ansible Automation
- How it works
- Understanding modules, tasks & playbooks
- How to execute Ansible commands
- Using variables & templates
- Tower - where it fits in
- Basic usage of Tower
- Learn major Tower features: RBAC, workflows and so on

Introduction

Topics Covered:

- What is the Ansible Automation Platform?
- What can it do?



Automation happens when one person meets a problem they never want to solve again

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Teams are automating...

Lines Of Business

Network

Security

Operations

Developers

Infrastructure

Ad-hoc Automation is happening in silos

Developers → Ansible used in silo

Security → DIY scripting automation

Infrastructure → Open source config management tool

Network → Proprietary vendor supplied automation

Is organic automation enough?

Why Ansible?

Simple

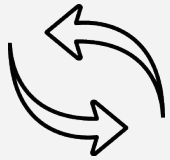
Human readable automation

No special coding skills needed

Tasks executed in order

Usable by every team

Get productive quickly



Powerful

App deployment

Configuration management

Workflow orchestration

Network automation

Orchestrate the app lifecycle

Agentless

Agentless architecture

Uses OpenSSH & WinRM

No agents to exploit or update

Get started immediately

More efficient & more secure

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What can I do using Ansible?

Automate the deployment and management of your entire IT footprint.

Do this...

Orchestration	Configuration Management	Application Deployment	Provisioning	Continuous Delivery	Security and Compliance

On these...

Firewalls	Load Balancers	Applications	Containers	Clouds
Servers	Infrastructure	Storage	Network Devices	**And more...**

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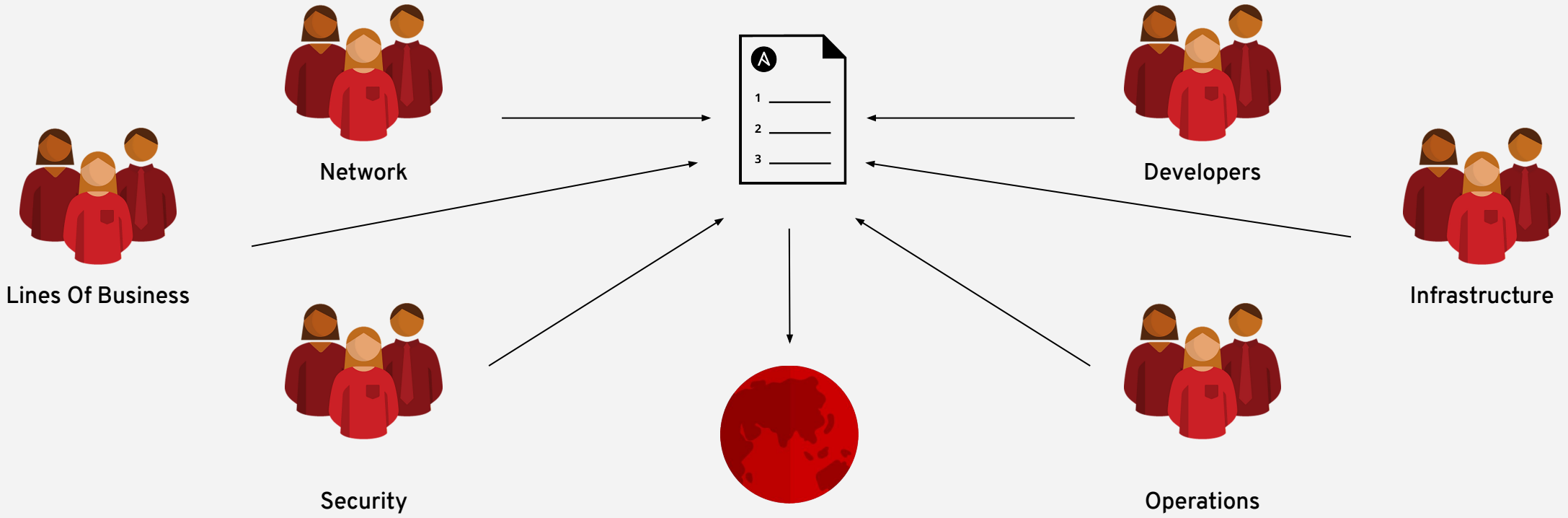
When automation crosses teams, you need an automation platform



Red Hat Ansible Automation Platform

Network | Lines of business | Security |  | Operations | Infrastructure | Developers

Engage	**Knowledge** Automation Analytics	**Collaborate** Automation Hub	**Governance** Automation Services Catalog	**Trusted** Certified content	**Accelerate** Collections	
Scale	**Ansible Tower:** Operate & control at scale					
Create	**Ansible Engine:** Universal language of automation					

Fueled by an open source community

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Ansible automates technologies you use

Time to automate is measured in minutes

Cloud

AWS
Azure
Digital Ocean
Google
OpenStack
Rackspace
+more

Operating Systems

RHEL
Linux
Windows
+more

Virt & Container

Docker
VMware
RHV
OpenStack
OpenShift
+more

Storage

Netapp
Red Hat Storage
Infinidat
+more

Windows

ACLs
Files
Packages
IIS
Regedits
Shares
Services
Configs
Users
Domains
+more

Network

A10
Arista
Aruba
Cumulus
Bigswitch
Cisco
Dell
Extreme
F5
Lenovo
MikroTik
Juniper
OpenSwitch
+more

Security

Checkpoint
Cisco
CyberArk
F5
Fortinet
Juniper
IBM
Palo Alto
Snort
+more

Monitoring

Dynatrace
Datadog
LogicMonitor
New Relic
Sensu
+more

Devops

Jira
GitHub
Vagrant
Jenkins
Slack
+more

Section 1
Ansible Engine

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Section 1.1

Topics Covered:

- Understanding the Ansible Infrastructure
- Check the prerequisites

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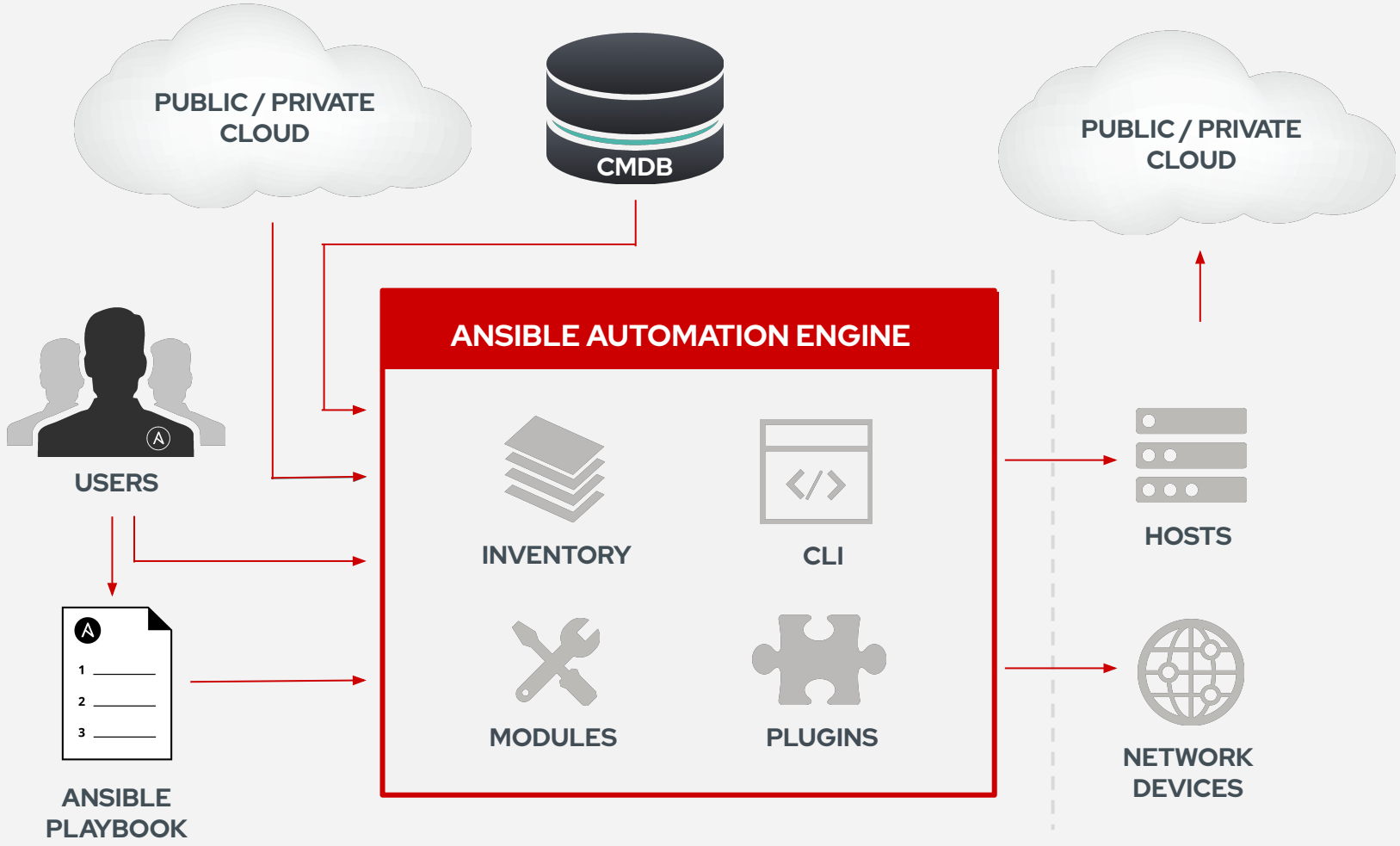
PUBLIC / PRIVATE CLOUD
CMDB
PUBLIC / PRIVATE CLOUD
ANSIBLE AUTOMATION ENGINE
USERS
INVENTORY
CLI
HOSTS
MODULES
PLUGINS
NETWORK DEVICES
ANSIBLE PLAYBOOK

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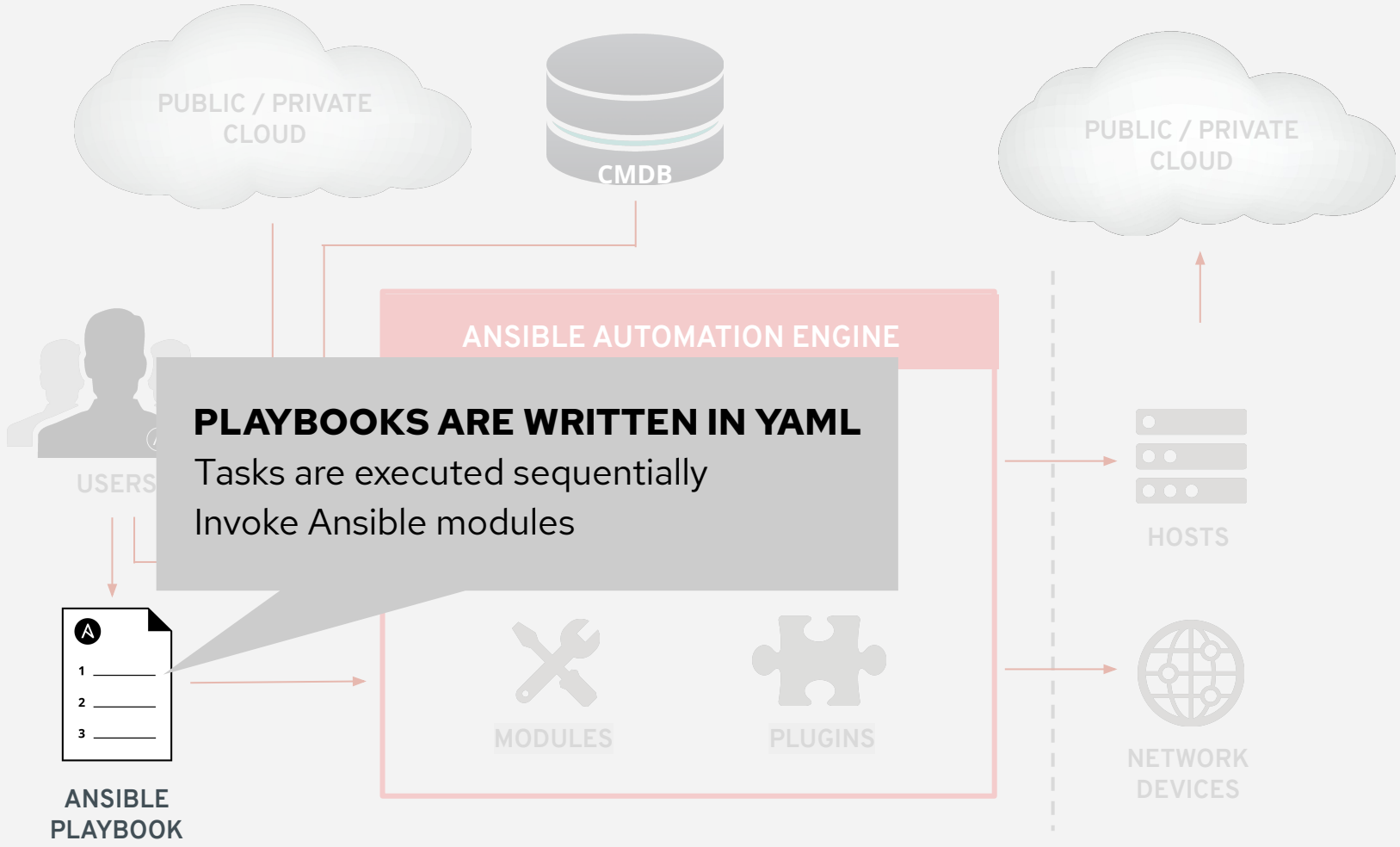
PUBLIC / PRIVATE CLOUD
CMDB
PUBLIC / PRIVATE CLOUD
ANSIBLE AUTOMATION ENGINE
USERS
PLAYBOOKS ARE WRITTEN IN YAML
Tasks are executed sequentially
Invoke Ansible modules
HOSTS
1
2
3
MODULES
PLUGINS
NETWORK DEVICES
ANSIBLE PLAYBOOK

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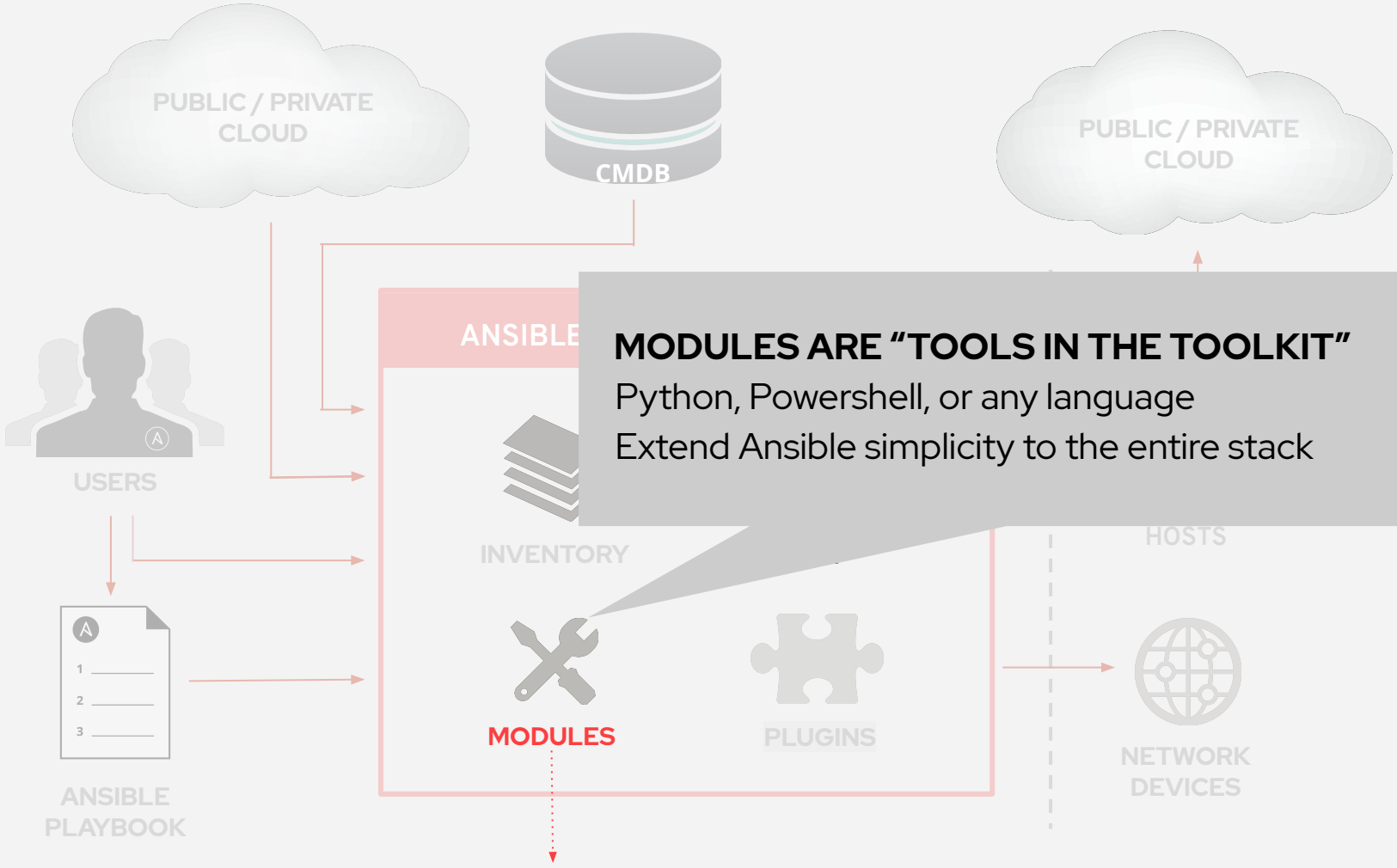
```
---
- name: install and start apache
  hosts: web
  become: yes

  tasks:
    - name: httpd package is present
      yum:
        name: httpd
        state: latest

    - name: latest index.html file is present
      template:
        src: files/index.html
        dest: /var/www/html/

    - name: httpd is started
      service:
        name: httpd
        state: started
```



MODULES ARE "TOOLS IN THE TOOLKIT"

Python, Powershell, or any language

Extend Ansible simplicity to the entire stack

```
- name: latest index.html file is present
  template:
    src: files/index.html
    dest: /var/www/html/
```

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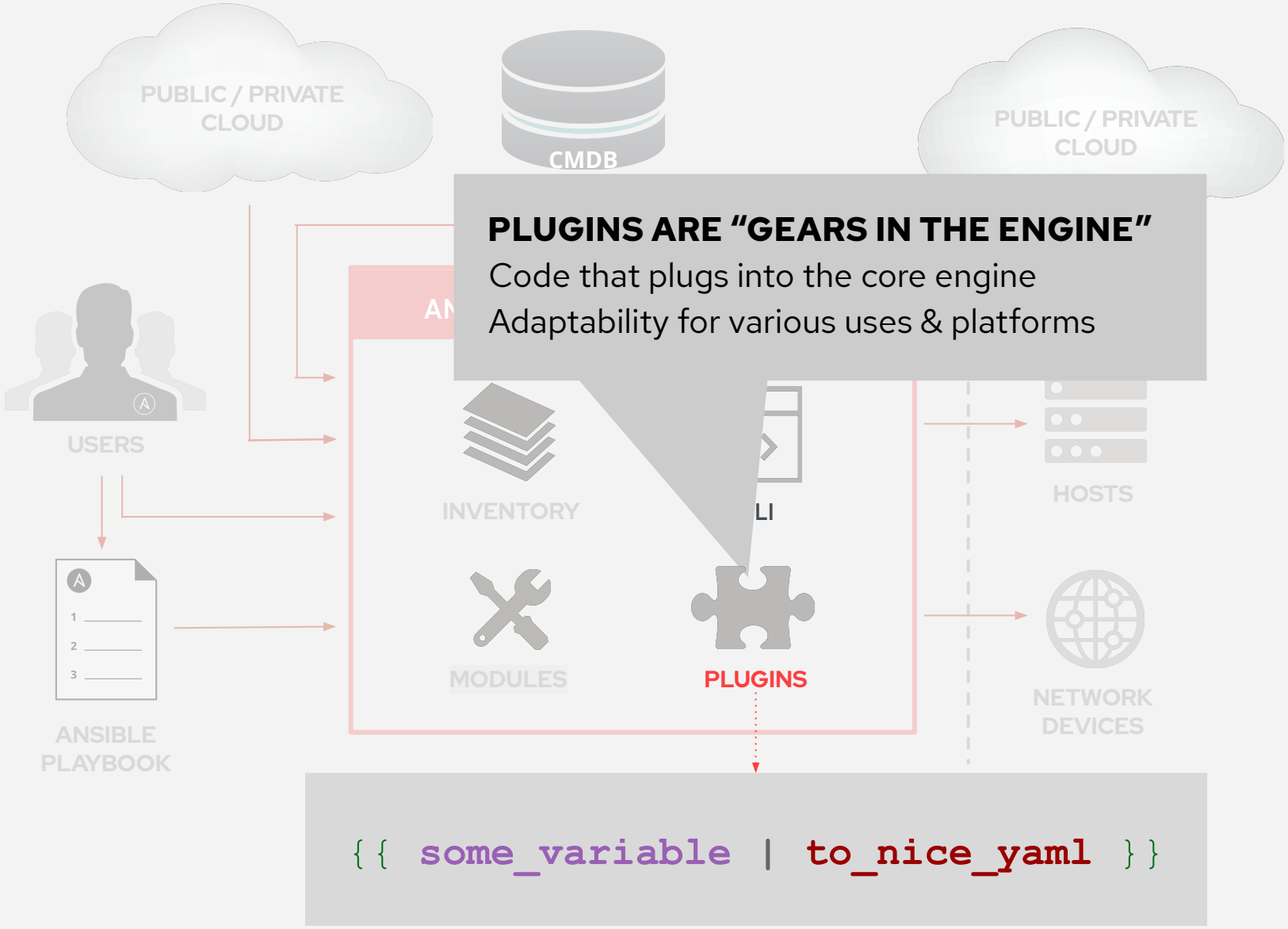
PUBLIC / PRIVATE CLOUD
CMDB
PUBLIC / PRIVATE CLOUD
PLUGINS ARE "GEARS IN THE ENGINE"
Code that plugs into the core engine
Adaptability for various uses & platforms
USERS
INVENTORY
HOSTS
MODULES
PLUGINS
NETWORK DEVICES
ANSIBLE PLAYBOOK
{{ some_variable | to_nice_yaml }}

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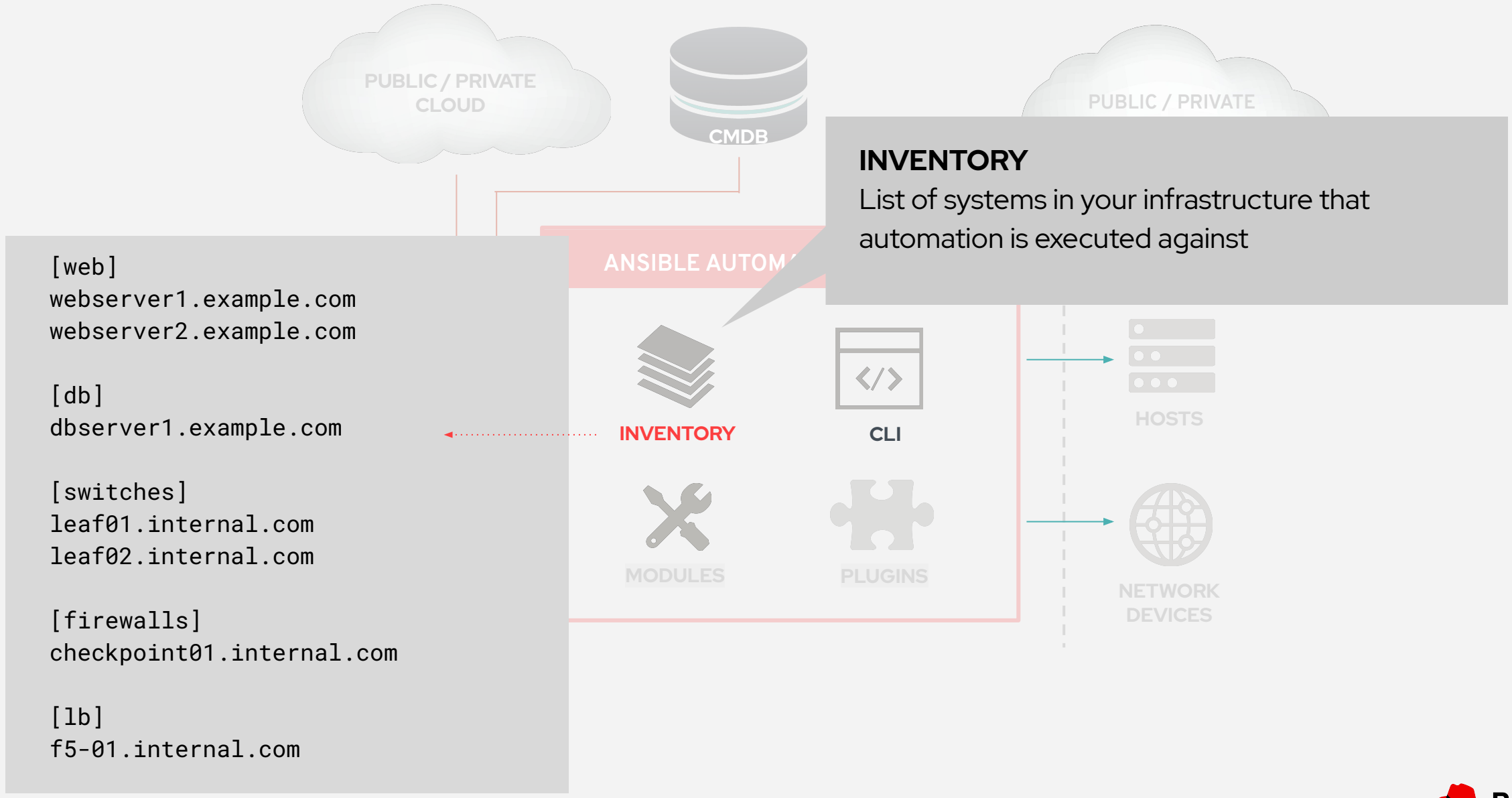
PUBLIC / PRIVATE CLOUD
CMDB
PUBLIC / PRIVATE
INVENTORY
List of systems in your infrastructure that automation is executed against
[web]
webserver1.example.com
webserver2.example.com
[db]
dbserver1.example.com
[switches]
leaf01.internal.com
leaf02.internal.com
[firewalls]
checkpoint01.internal.com
[lb]
f5-01.internal.com
ANSIBLE AUTOM
INVENTORY
CLI
HOSTS
MODULES
PLUGINS
NETWORK DEVICES

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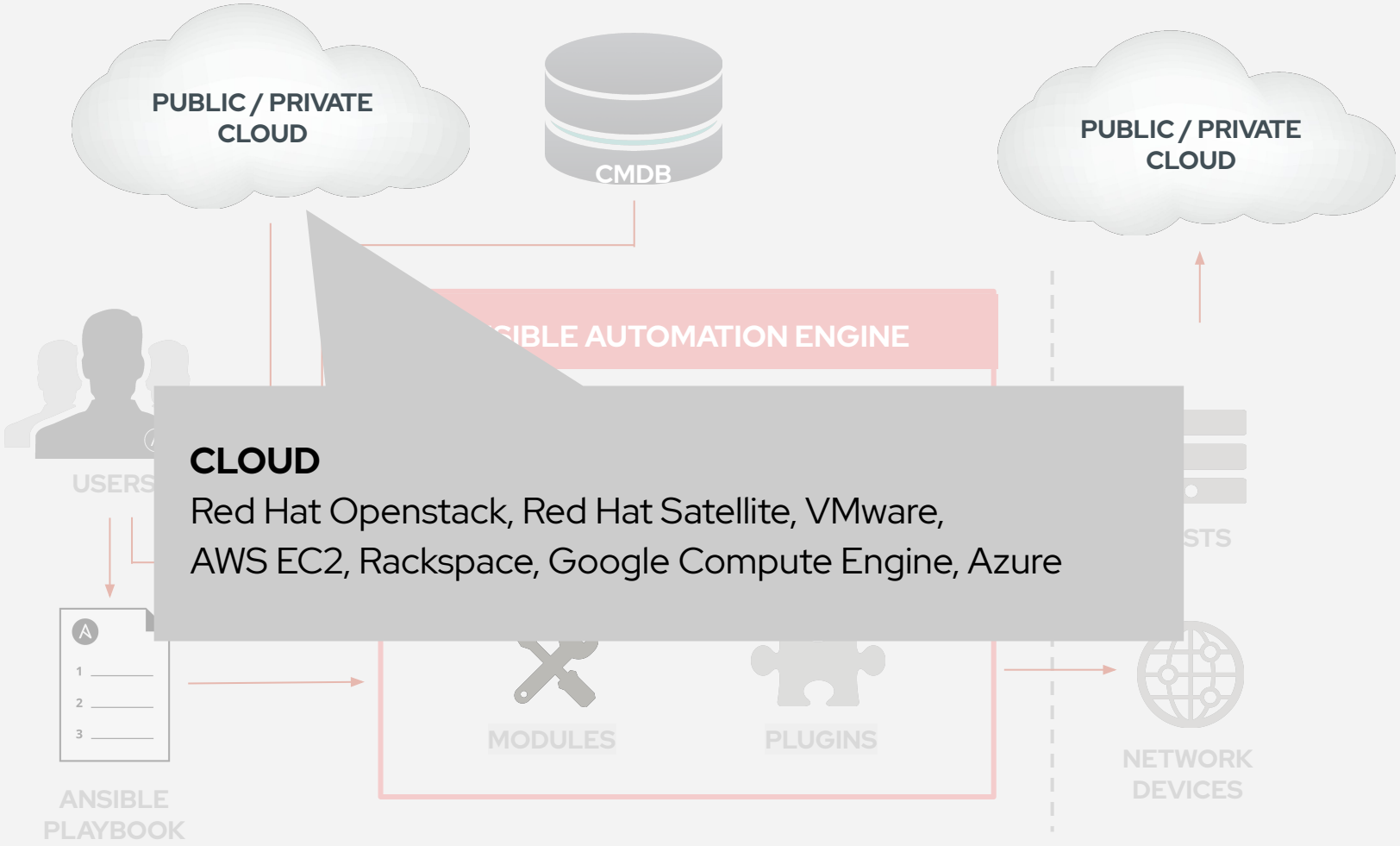

CLOUD

Red Hat Openstack, Red Hat Satellite, VMware,
AWS EC2, Rackspace, Google Compute Engine, Azure

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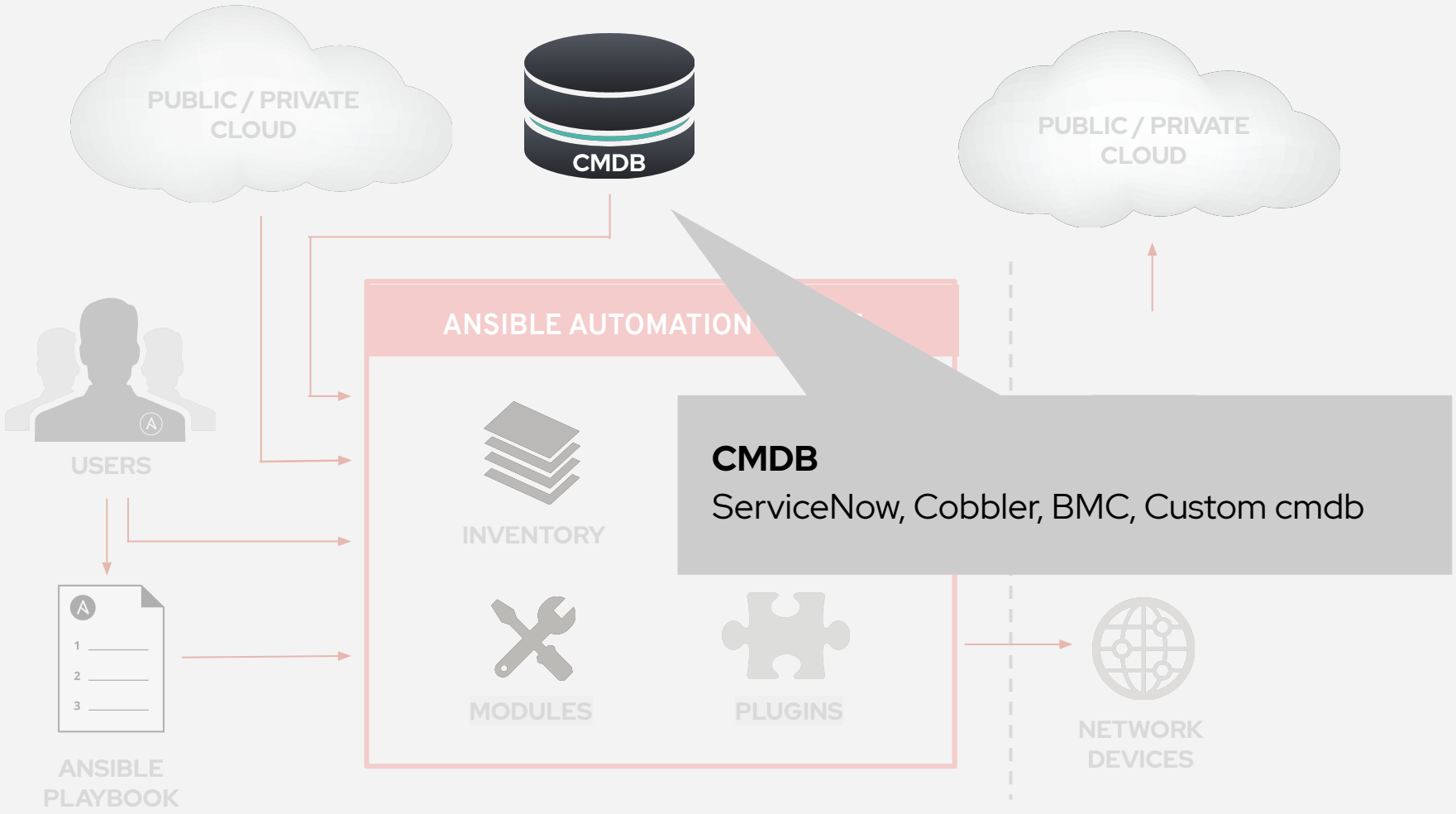
PUBLIC / PRIVATE CLOUD
CMDB
PUBLIC / PRIVATE CLOUD
ANSIBLE AUTOMATION
USERS
INVENTORY
CMDB
ServiceNow, Cobbler, BMC, Custom cmdb
MODULES
PLUGINS
NETWORK DEVICES
ANSIBLE PLAYBOOK

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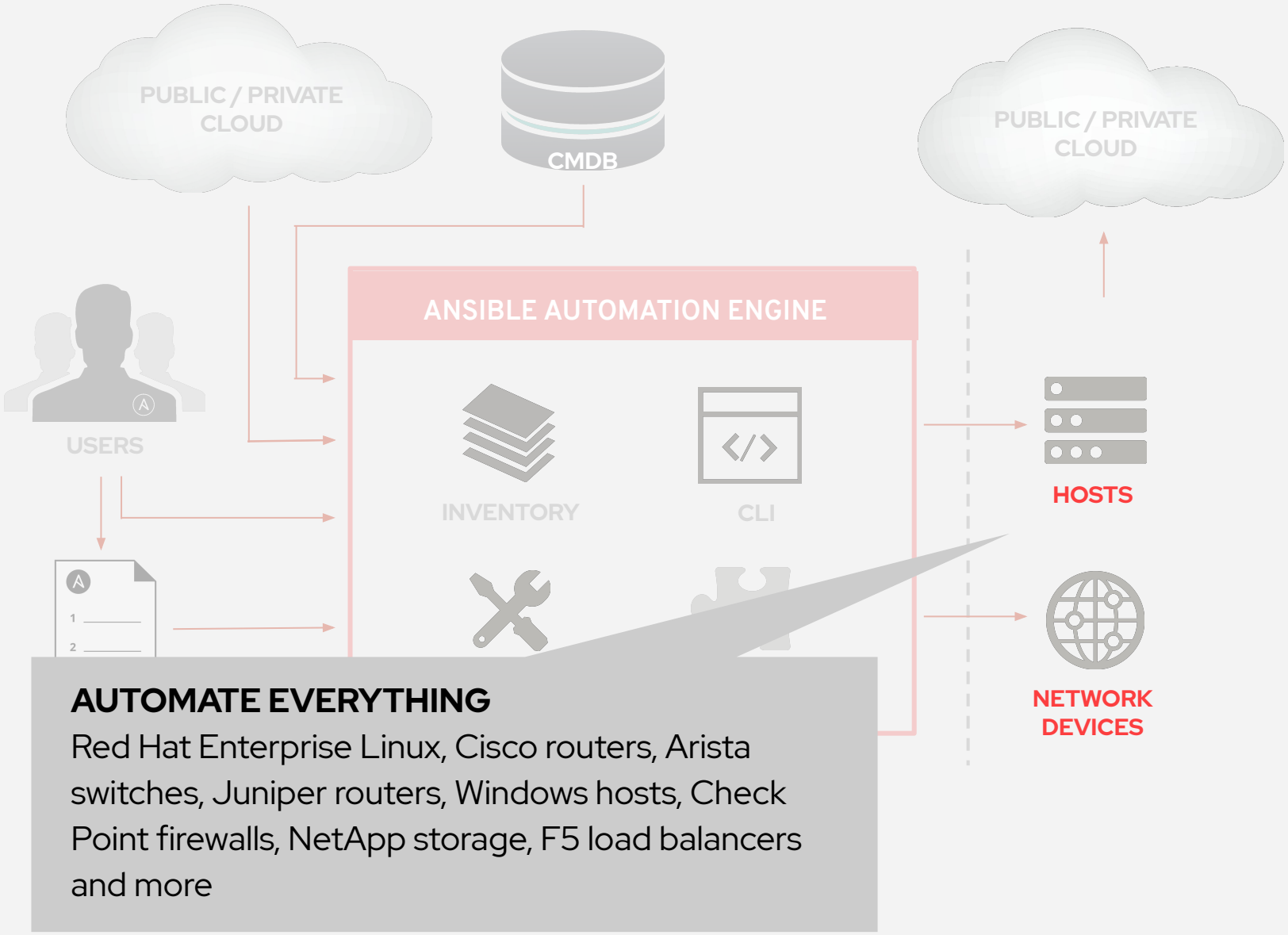
PUBLIC / PRIVATE CLOUD
CMDB
PUBLIC / PRIVATE CLOUD
ANSIBLE AUTOMATION ENGINE
USERS
INVENTORY
CLI
HOSTS
NETWORK DEVICES
AUTOMATE EVERYTHING
Red Hat Enterprise Linux, Cisco routers, Arista switches, Juniper routers, Windows hosts, Check Point firewalls, NetApp storage, F5 load balancers and more

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LINUX AUTOMATION

150+

Linux Modules

AUTOMATE EVERYTHING LINUX

Red Hat Enterprise Linux, BSD, Debian, Ubuntu and many more!

ONLY REQUIREMENTS:
Python 2 (2.6 or later)
***or* Python 3 (3.5 or later)**

ansible.com/get-started

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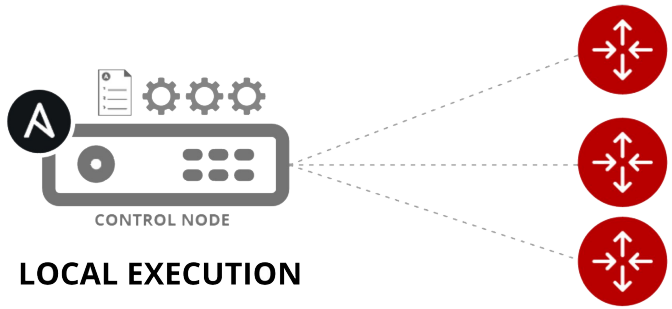
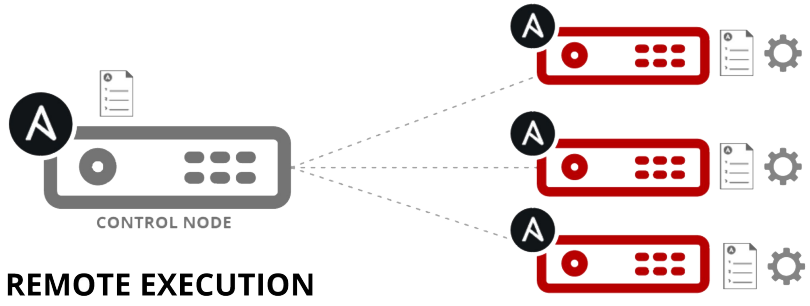
How Ansible Automation works

Module code is executed locally on the control node



NETWORKING DEVICES

Module code is copied to the managed node, executed, then removed



LINUX/WINDOWS HOSTS

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Section 1.2

Topics Covered:

- Ansible inventories
- Main Ansible config file
- Modules and ad-hoc commands

Inventory

- Ansible works against multiple systems in an inventory
- Inventory is usually file based
- Can have multiple groups
- Can have variables for each group or even host

Understanding Inventory - Basic

```
# Static inventory example:
[myservers]
10.42.0.2
10.42.0.6
10.42.0.7
10.42.0.8
10.42.0.100
host.example.com
```

Understanding Inventory - Basic

```
[app1srv]
appserver01 ansible_host=10.42.0.2
appserver02 ansible_host=10.42.0.3

[web]
node-[1:30] ansible_host=10.42.0.[31:60]

[web:vars]
apache_listen_port=8080
apache_root_path=/var/www/mywebdocs/

[all:vars]
ansible_user=kev
ansible_ssh_private_key_file=/home/kev/.ssh/id_rsa
```

Understanding Inventory - Variables

```
[app1srv]
appserver01 ansible_host=10.42.0.2
appserver02 ansible_host=10.42.0.3

[web]
node-[1:30] ansible_host=10.42.0.[31:60]

[web:vars]
apache_listen_port=8080
apache_root_path=/var/www/mywebdocs/

[all:vars]
ansible_user=ender
ansible_ssh_private_key_file=/home/ender/.ssh/id_rsa
```

Understanding Inventory - Groups

```
[nashville]
bnaapp01
bnaapp02

[atlanta]
atlapp03
atlapp04

[south:children]
atlanta
nashville
hsvapp05
```

Configuration File

- Basic configuration for Ansible
- Can be in multiple locations, with different precedence
- Here: `.ansible.cfg` in the home directory
- Configures where to find the inventory

The Ansible Configuration

Configuration files will be searched for in the following order:

- ANSIBLE_CONFIG (environment variable if set)
- ansible.cfg (in the current directory)
- ~/.ansible.cfg (in the home directory)
- /etc/ansible/ansible.cfg (installed as Ansible default)

First Ad-Hoc Command: ping

- Single Ansible command to perform a task quickly directly on command line
- Most basic operation that can be performed
- Here: an example Ansible ping - not to be confused with ICMP

```
$ ansible all -m ping
```

Ad-Hoc Commands `ping`

```
# Check connections (submarine ping, not ICMP)
[user@ansible] $ ansible all -m ping

web1 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python":
"/usr/bin/python"
    },
    "changed": false,
    "ping": "pong"
}
```

The Ansible Command

Some basics to keep you from getting stuck
--help (Display some basic and extensive options)

```
[user@ansible ~]$ ansible --help
Usage: ansible <host-pattern> [options]

Define and run a single task 'playbook' against a set of hosts

Options:
  -a MODULE_ARGS, --args=MODULE_ARGS
                        module arguments
  --ask-vault-pass      ask for vault password
  -B SECONDS, --background=SECONDS
<<<snippet, output removed for brevity>>>
```

Ad-Hoc Commands

Here are some common options you might use:

`-m MODULE_NAME, --module-name=MODULE_NAME`
Module name to execute the ad-hoc command

`-a MODULE_ARGS, --args=MODULE_ARGS`
Module arguments for the ad-hoc command

`-b, --become`
Run ad-hoc command with elevated rights such as sudo, the default method

`-e EXTRA_VARS, --extra-vars=EXTRA_VARS`
Set additional variables as key=value or YAML/JSON

Ad-Hoc Commands

Here are some common options you might use:

```
# Check connections to all (submarine ping, not ICMP)
[user@ansible] $ ansible all -m ping

# Run a command on all the hosts in the web group
[user@ansible] $ ansible web -m command -a "uptime"

# Collect and display known facts for server “web1”
[user@ansible] $ ansible web1 -m setup
```


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Section 1.3

Topics Covered:

- Playbooks basics
- Running a playbook

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An Ansible Playbook

A play

```
---
- name: install and start apache
  hosts: web
  become: yes

  tasks:
    - name: httpd package is present
      yum:
        name: httpd
        state: latest

    - name: latest index.html file is present
      template:
        src: files/index.html
        dest: /var/www/html/

    - name: httpd is started
      service:
        name: httpd
        state: started
```

An Ansible Playbook

A task

```
---
- name: install and start apache
  hosts: web
  become: yes

  tasks:
    - name: httpd package is present
      yum:
        name: httpd
        state: latest

    - name: latest index.html file is present
      template:
        src: files/index.html
        dest: /var/www/html/

    - name: httpd is started
      service:
        name: httpd
        state: started
```

An Ansible Playbook

module

```
---
- name: install and start apache
  hosts: web
  become: yes

  tasks:
    - name: httpd package is present
      yum:
        name: httpd
        state: latest

    - name: latest index.html file is present
      template:
        src: files/index.html
        dest: /var/www/html/

    - name: httpd is started
      service:
        name: httpd
        state: started
```

Running an Ansible Playbook:

The most important colors of Ansible

```
A task executed as expected, no change was made.

A task executed as expected, making a change

A task failed to execute successfully
```

Running an Ansible Playbook

```
[user@ansible] $ ansible-playbook apache.yml

PLAY [webservers] ***************************************************************

TASK [Gathering Facts] **********************************************************
ok: [web2]
ok: [web1]
ok: [web3]

TASK [Ensure httpd package is present] ******************************************
changed: [web2]
changed: [web1]
changed: [web3]

TASK [Ensure latest index.html file is present] *********************************
changed: [web2]
changed: [web1]
changed: [web3]

TASK [Restart httpd] ************************************************************
changed: [web2]
changed: [web1]
changed: [web3]

PLAY RECAP **********************************************************************
web2                       : ok=1    changed=3 unreachable=0   failed=0
web1                       : ok=1    changed=3 unreachable=0   failed=0
web3                       : ok=1    changed=3 unreachable=0   failed=0
```

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Exercise 1.3

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Section 1.4

Topics Covered:

- Working with variables
- What are facts?

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An Ansible Playbook Variable Example

```
---
- name: variable playbook test
  hosts: localhost

  vars:
    var_one: awesome
    var_two: ansible is
    var_three: "{{ var_two }} {{ var_one }}"

  tasks:

    - name: print out var_three
      debug:
        msg: "{{var_three}}"
```

An Ansible Playbook Variable Example

```
---
- name: variable playbook test
  hosts: localhost

  vars:
    var_one: awesome
    var_two: ansible is
    var_three: "{{ var_two }} {{ var_one }}"

  tasks:

    - name: print out var_three
      debug:
        msg: "{{var_three}}"
```

ansible is awesome

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Facts

- Just like variables, really...
- ...but: coming from the host itself!
- Check them out with the setup module

```
    "ansible_facts": {
        "ansible_default_ipv4": {
            "address": "10.41.17.37",
            "macaddress": "00:69:08:3b:a9:16",
            "interface": "eth0",
...
```

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Exercise 1.4

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Section 1.5

Topics Covered:

- Conditionals
- Handlers
- Loops

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Conditionals via VARS

```
vars:
   my_mood: happy

tasks:
- name: conditional task, based on my_mood var
  debug:
    msg: "Come talk to me.  I am {{ my_mood }}!"
  when: my_mood == "happy"
```

Conditionals with variables

```
vars:
   my_mood: happy

tasks:
- name: conditional task, based on my_mood var
  debug:
    msg: "Come talk to me.  I am {{ my_mood }}!"
  when: my_mood == "happy"
```

Alternatively

```
  debug:
    msg: "Feel free to interact.  I am {{ my_mood }}"
  when: my_mood != "grumpy"
```

Conditionals with facts

```
tasks:
- name: Install apache
  apt:
    name: apache2
    state: latest
  when: ansible_distribution == 'Debian' or ansible_distribution == 'Ubuntu'

- name: Install httpd
  yum:
    name: httpd
    state: latest
  when: ansible_distribution == 'RedHat'
```

Using the previous task state

This is NOT a handler task, but has similar function

```
- name: Ensure httpd package is present
  yum:
    name: httpd
    state: latest
  register: http_results

- name: Restart httpd
  service:
    name: httpd
    state: restart
  when: httpd_results.changed
```

Handler Tasks

A handler task is run when a referring task result shows a change

```
tasks:
- name: Ensure httpd package is present
  yum:
    name: httpd
    state: latest
  notify: restart_httpd

handlers:
- name: restart_httpd
  service:
    name: httpd
    state: restart
```

Handler Tasks

```
tasks:
- name: Ensure httpd package is present
  yum:
    name: httpd
    state: latest
  notify: restart_httpd

- name: Standardized index.html file
  copy:
    content: "This is my index.html file for {{ ansible_host }}"
    dest: /var/www/html/index.html
  notify: restart_httpd
```

If **either** task notifies a **changed** result, the handler will be notified **ONCE**.

```
TASK [Ensure httpd package is present] ***********************************************
ok: [web2]
ok: [web1]

TASK [Standardized index.html file] **************************************************
changed: [web2]
changed: [web1]

NOTIFIED: [restart_httpd] ************************************************************
changed: [web2]
changed: [web1]
```

unchanged

changed

handler runs once

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Handler Tasks

```
tasks:
- name: Ensure httpd package is present
  yum:
    name: httpd
    state: latest
  notify: restart_httpd

- name: Standardized index.html file
  copy:
    content: "This is my index.html file for {{ ansible_host }}"
    dest: /var/www/html/index.html
  notify: restart_httpd
```

If **both** of these tasks notifies of a **changed** result, the handler will be notified **ONCE**.

```
TASK [Ensure httpd package is present] ***********************************************
changed: [web2]
changed: [web1]

TASK [Standardized index.html file] **************************************************
changed: [web2]
changed: [web1]

NOTIFIED: [restart_httpd] ************************************************************
changed: [web2]
changed: [web1]
```

changed

changed

handler runs once

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Handler Tasks

```yaml
tasks:
- name: Ensure httpd package is present
  yum:
    name: httpd
    state: latest
  notify: restart_httpd

- name: Standardized index.html file
  copy:
    content: "This is my index.html file for {{ ansible_host }}"
    dest: /var/www/html/index.html
  notify: restart_httpd
```

If **neither** task notifies a **changed** result, the handler ***does not run.***

```
TASK [Ensure httpd package is present] *****************************************
ok: [web2]
ok: [web1]

TASK [Standardized index.html file] ********************************************
ok: [web2]
ok: [web1]

PLAY RECAP *********************************************************************
web2       : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
web1       : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

unchanged

unchanged

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Variables & Loops

Great opportunity to use a loop

```
---
- name: Ensure users
  hosts: node1
  become: yes

  tasks:
    - name: Ensure user is present
      user:
        name: dev_user
        state: present

    - name: Ensure user is present
      user:
        name: qa_user
        state: present

    - name: Ensure user is present
      user:
        name: prod_user
        state: present
```

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Variables & Loops

Using loops to simplify tasks

```
---
- name: Ensure users
  hosts: node1
  become: yes

  tasks:
    - name: Ensure users are present
      user:
        name: "{{item}}"
        state: present
      loop:
          - dev_user
          - qa_user
          - prod_user
```


Red Hat
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Platform
Demo Time
Exercise 1.5
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Platform

Section 1.6

Topics Covered:

- Templates

Red Hat

Variables & Templates

Using a system fact or declared variable to write a file

```
- name: Ensure apache is installed and started
  hosts: web
  become: yes
  vars:
    http_port: 80
    http_docroot: /var/www/mysite.com

  tasks:
    - name: Verify correct config file is present
      template:
        src: templates/httpd.conf.j2
        dest: /etc/httpd/conf/httpd.conf
```

Variables & Templates

Using a system fact or declared variable to write a file

```
- name: Ensure apache is installed and started
  hosts: web
  become: yes
  vars:
    http_port: 80
    http_docroot: /var/www/mysite.com

  tasks:
    - name: Verify correct config file is present
      template:
        src: templates/httpd.conf.j2
        dest: /etc/httpd/conf/httpd.conf
```

```
## Excerpt from httpd.conf.j2

# Change this to Listen on specific IP addresses as shown below to
# prevent Apache from glomming onto all bound IP addresses.
#
# Listen 80   ## original line
Listen {{ http_port }}

# DocumentRoot: The directory out of which you will serve your
# documents.
# DocumentRoot "/var/www/html"
DocumentRoot {{ http_docroot }}
```

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Demo Time
Exercise 1.6
Red Hat

Section 1.7

Topics Covered:

- What are roles?
- How they look like
- Galaxy

Role structure

- Defaults: default variables with lowest precedence (e.g. port)
- Handlers: contains all handlers
- Meta: role metadata including dependencies to other roles
- Tasks: plays or tasks
  Tip: It's common to include tasks in main.yml with "when" (e.g. OS == xyz)
- Templates: templates to deploy
- Tests: place for playbook tests
- Vars: variables (e.g. override port)

```
user/
├── defaults
│   └── main.yml
├── handlers
│   └── main.yml
├── meta
│   └── main.yml
├── README.md
├── tasks
│   └── main.yml
├── templates
├── tests
│   ├── inventory
│   └── test.yml
└── vars
    └── main.yml
```

Ansible Galaxy

Sharing Content

Community

Roles, and more


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Demo Time
Exercise 1.7
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Platform

Section 1.8

Topics Covered:

- A bonus lab – try it on your own, and when time permits

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Platform

Demo Time

Exercise 1.8

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Section 2
Ansible Tower

Red Hat
Ansible Automation
Platform

Red Hat

Section 2.1

Topics Covered:

- Introduction to Tower

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Ansible Automation
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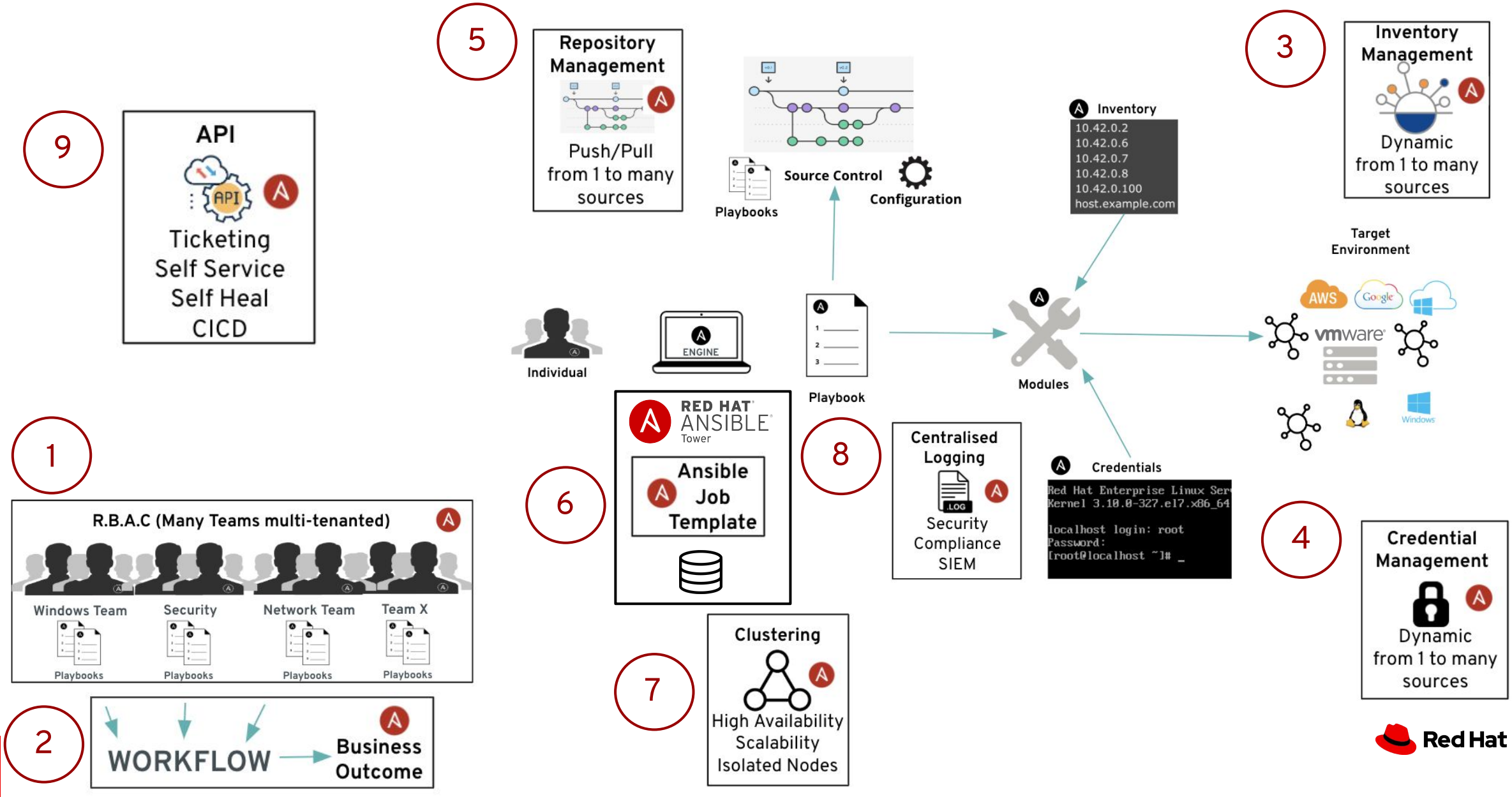
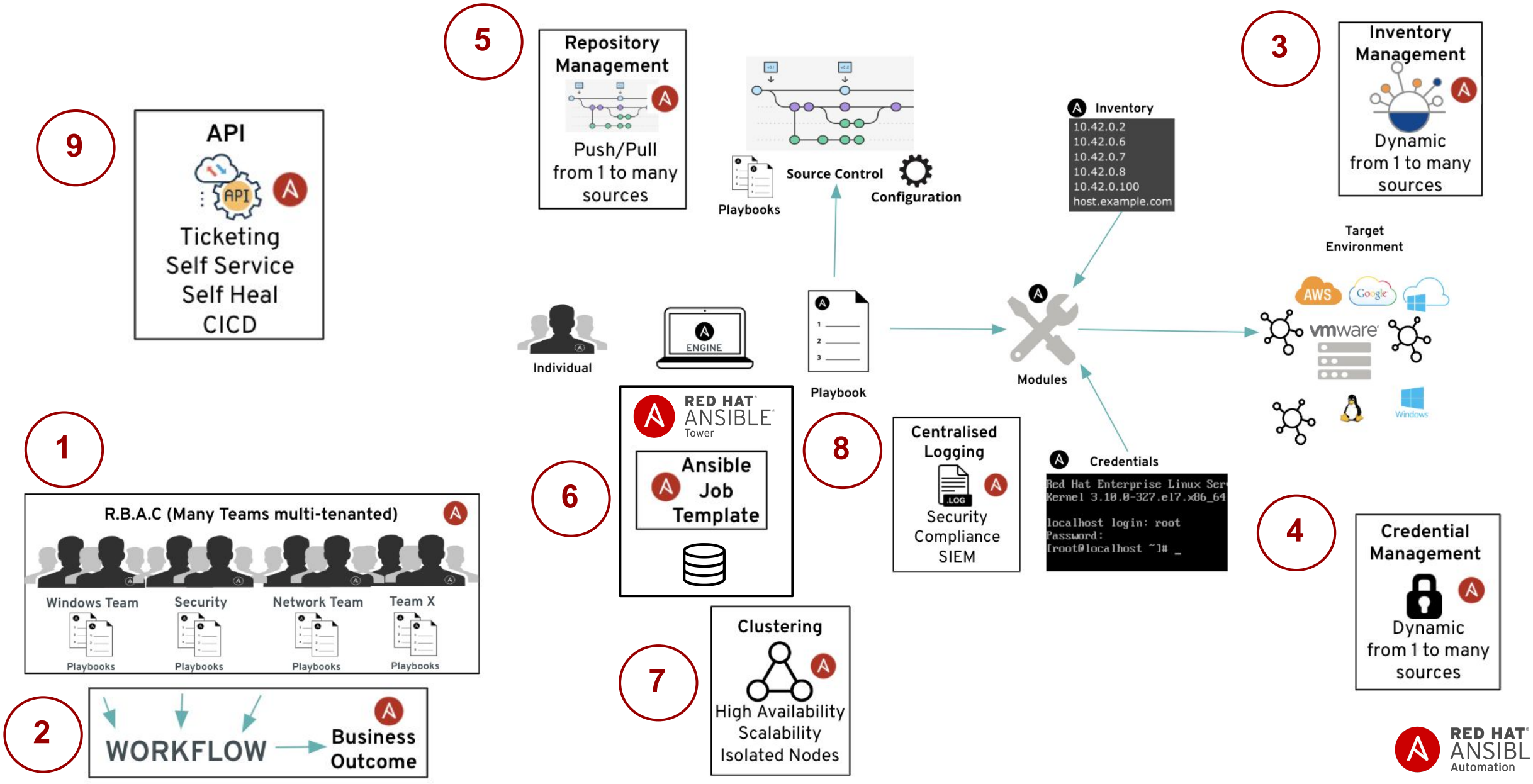
How Ansible Works - Ansible Tower



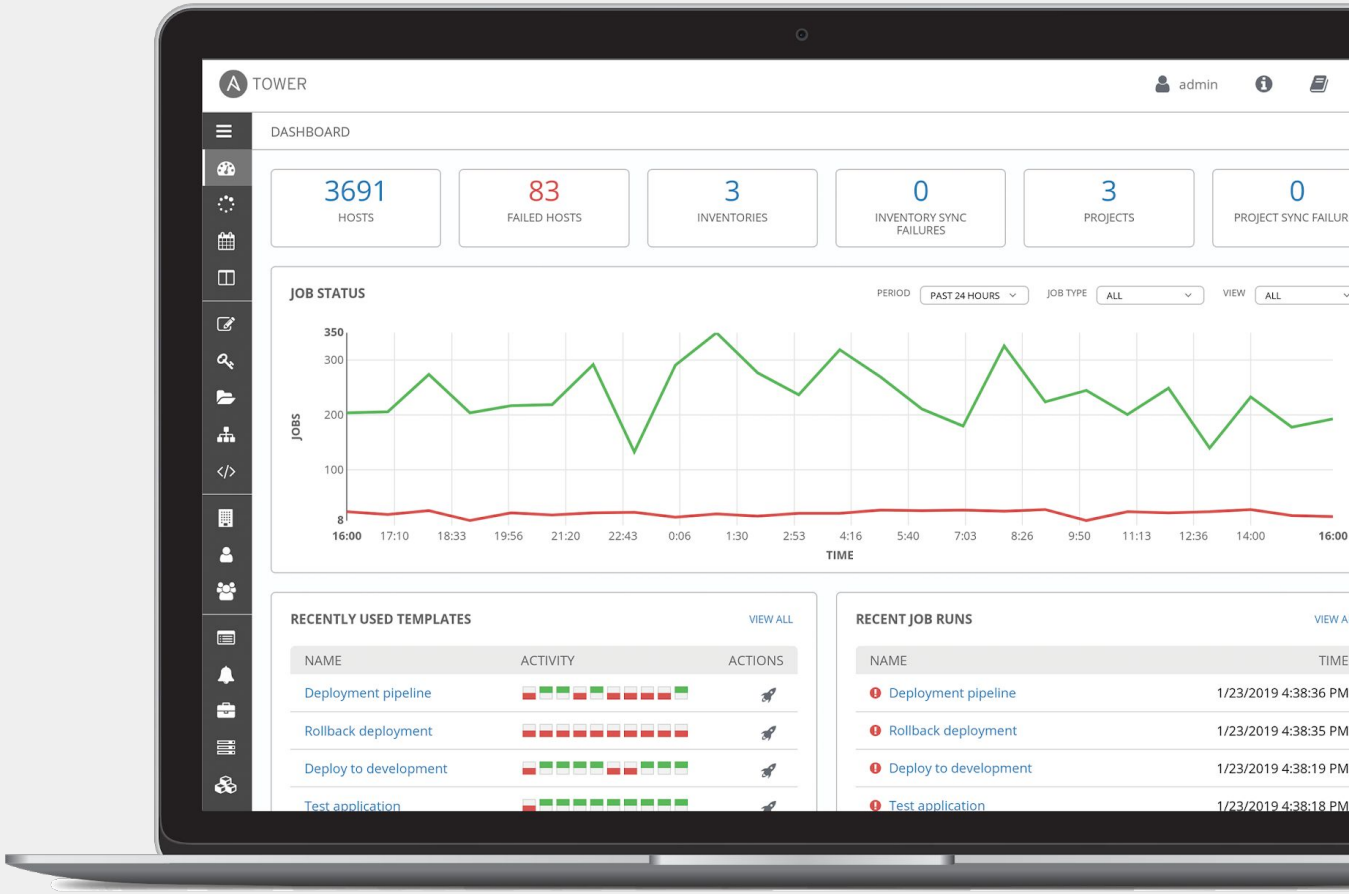
How Ansible Works - The Power of Ansible Tower



What is Ansible Tower?

Ansible Tower is a UI and RESTful API allowing you to scale IT automation, manage complex deployments and speed productivity.

- Role-based access control
- Deploy entire applications with push-button deployment access
- All automations are centrally logged
- Powerful workflows match your IT processes



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Red Hat Ansible Tower

Push button

An intuitive user interface experience makes it easy for novice users to execute playbooks you allow them access to.

RESTful API

With an API first mentality every feature and function of Tower can be API driven. Allow seamless integration with other tools like ServiceNow and Infoblox.

RBAC

Allow restricting playbook access to authorized users. One team can use playbooks in check mode (read-only) while others have full administrative abilities.

Enterprise integrations

Integrate with enterprise authentication like TACACS+, RADIUS, Azure AD. Setup token authentication with OAuth 2. Setup notifications with PagerDuty, Slack and Twilio.

Centralized logging

All automation activity is securely logged. Who ran it, how they customized it, what it did, where it happened - all securely stored and viewable later, or exported through Ansible Tower's API.

Workflows

Ansible Tower's multi-playbook workflows chain any number of playbooks, regardless of whether they use different inventories, run as different users, run at once or utilize different credentials.

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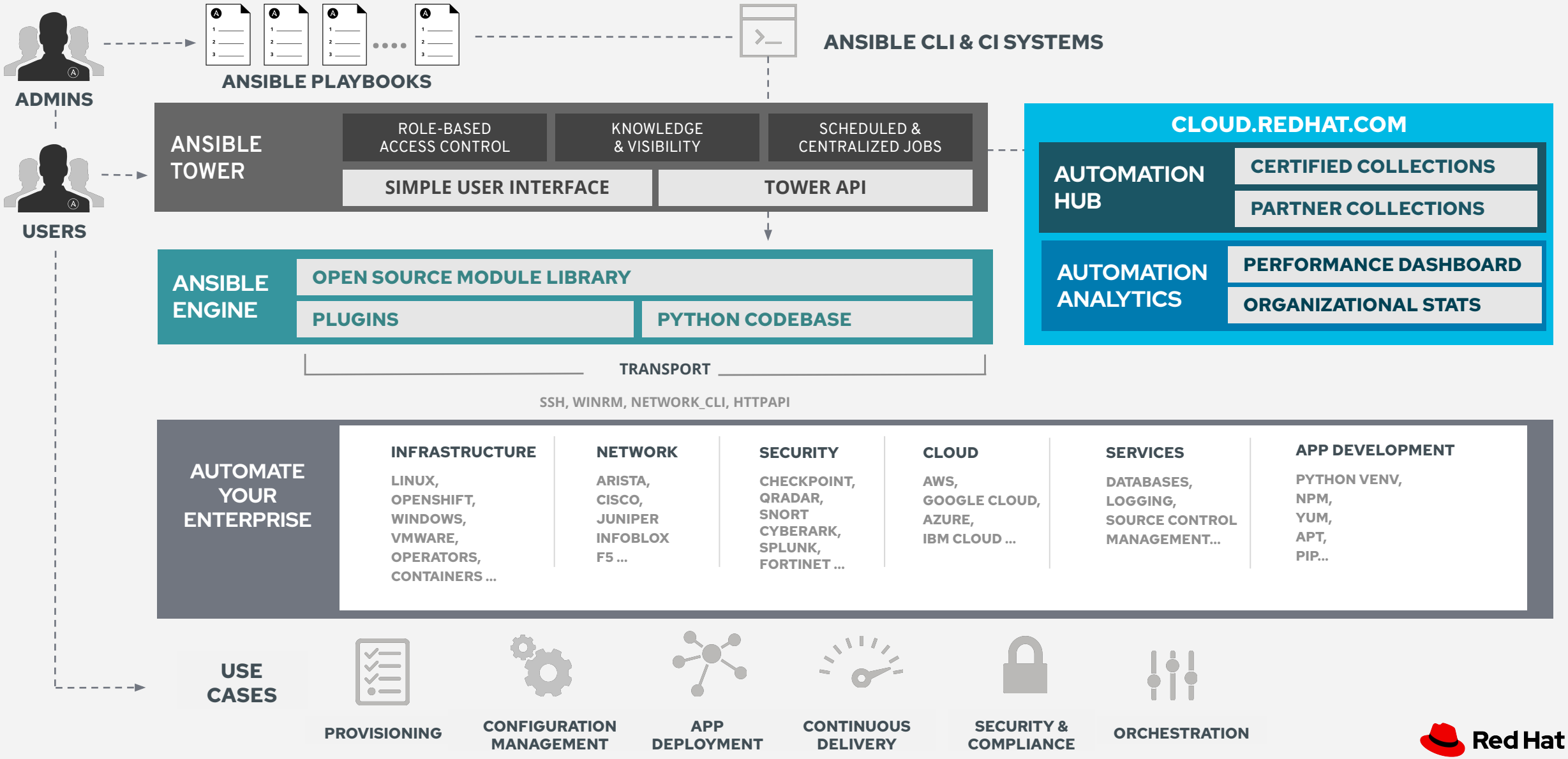
Ansible Automation Platform



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Platform

Demo Time

Exercise 2.1

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Section 2.2

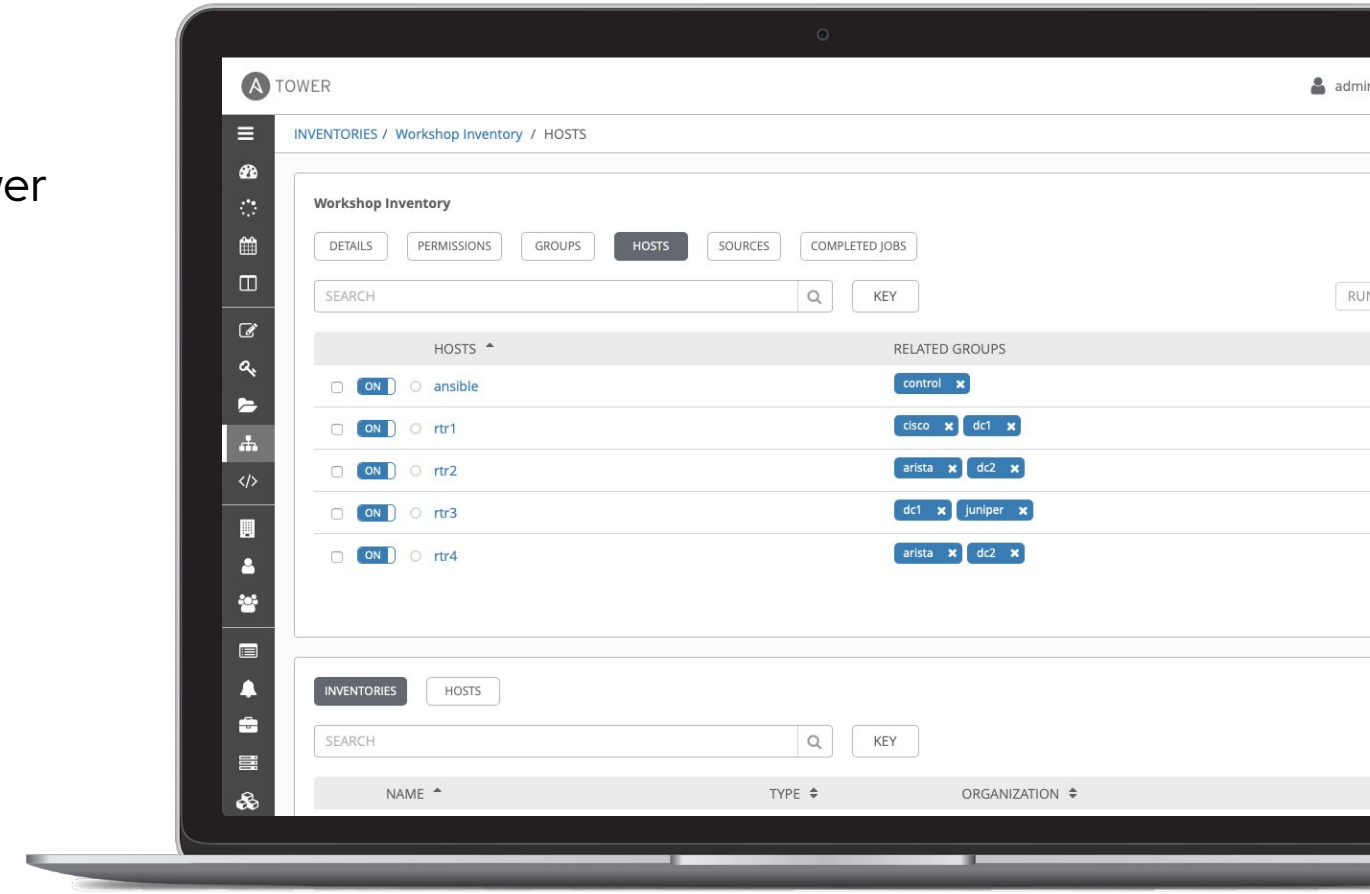
Topics Covered:

- Inventories
- Credentials

Inventory

Inventory is a collection of hosts (nodes) with associated data and groupings that Ansible Tower can connect to and manage.

- Hosts (nodes)
- Groups
- Inventory-specific data (variables)
- Static or dynamic sources



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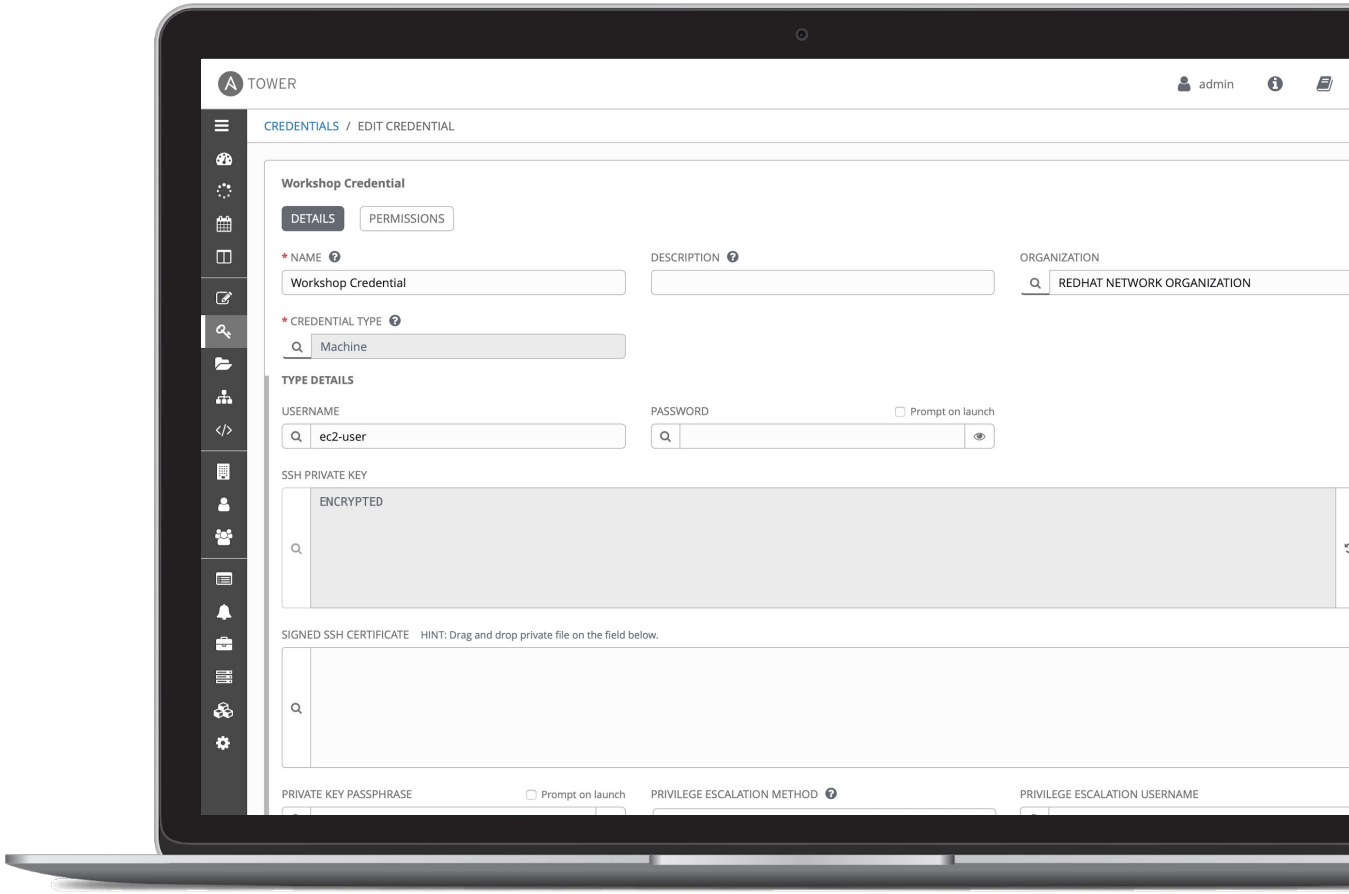
Credentials

Credentials are utilized by Ansible Tower for authentication with various external resources:

- Connecting to remote machines to run jobs
- Syncing with inventory sources
- Importing project content from version control systems
- Connecting to and managing network devices

Centralized management of various credentials allows end users to leverage a secret without ever exposing that secret to them.



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Exercise 2.2

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Section 2.3

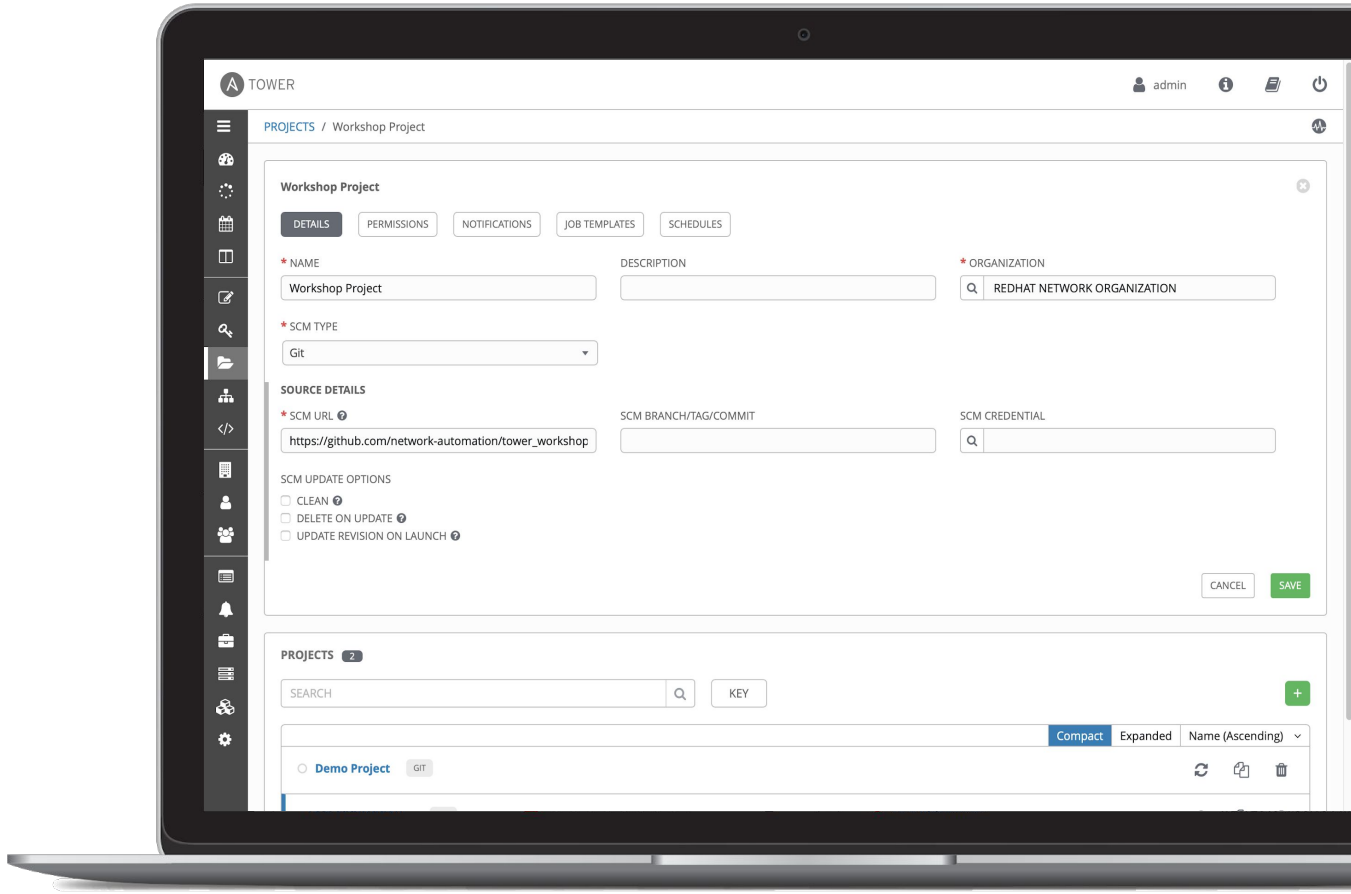
Topics Covered:

- Projects
- Job Templates

Project

A project is a logical collection of Ansible Playbooks, represented in Ansible Tower.

You can manage Ansible Playbooks and playbook directories by placing them in a source code management system supported by Ansible Tower, including Git, Subversion, and Mercurial.



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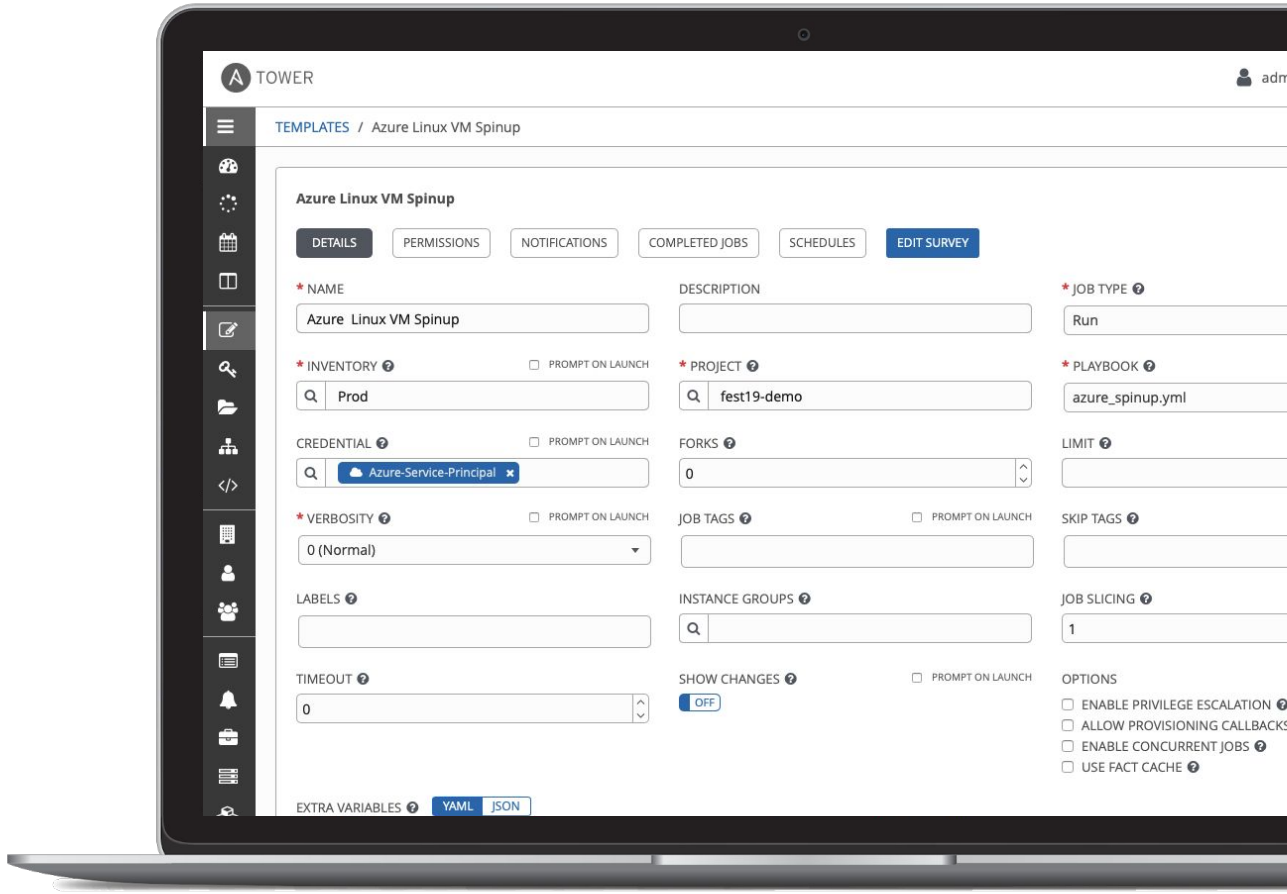
Job Templates

Everything in Ansible Tower revolves around the concept of a **Job Template**. Job Templates allow Ansible Playbooks to be controlled, delegated and scaled for an organization.

Job templates also encourage the reuse of Ansible Playbook content and collaboration between teams.

A **Job Template** requires:

- An **Inventory** to run the job against
- A **Credential** to login to devices.
- A **Project** which contains Ansible Playbooks



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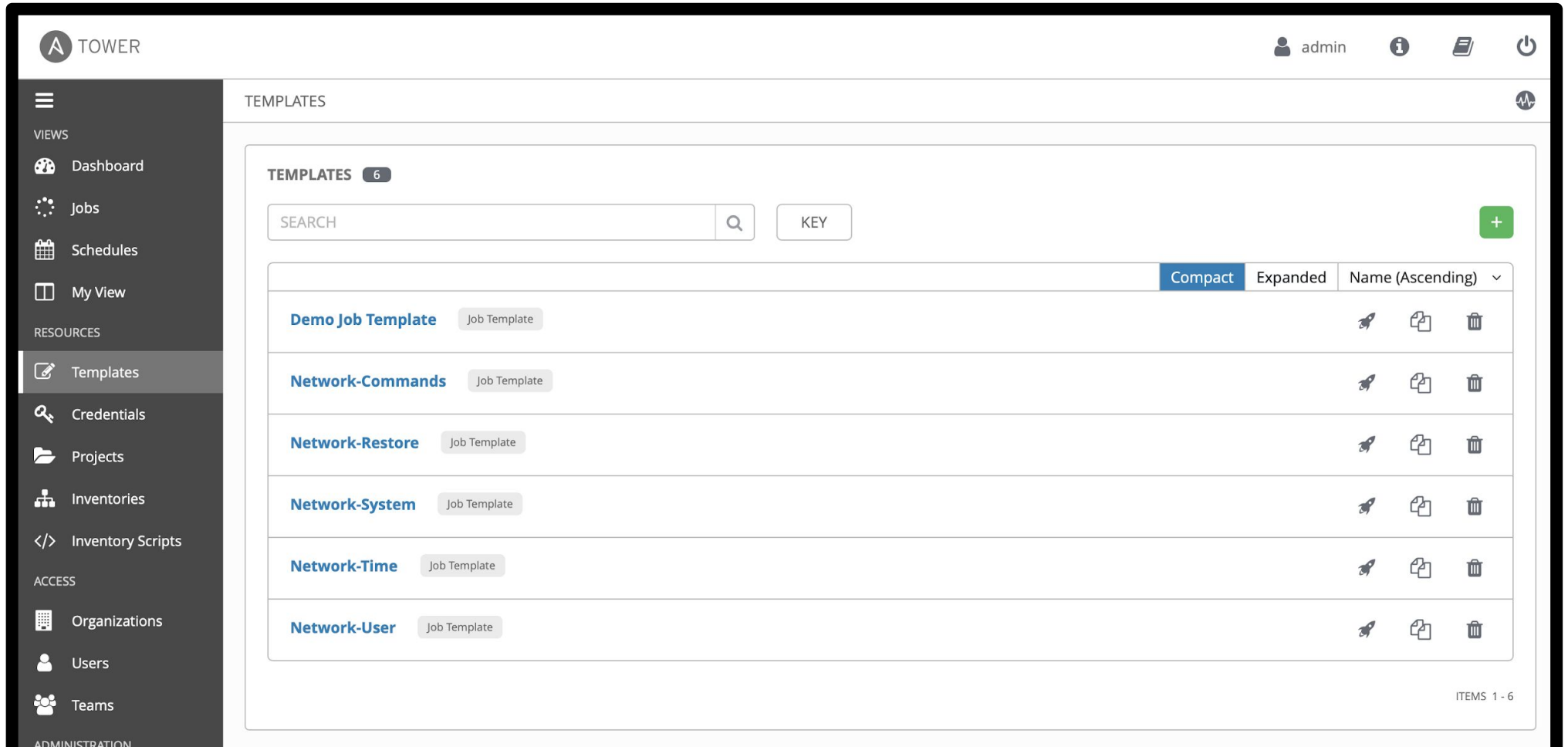
Expanding on Job Templates

Job Templates can be found and created by clicking the **Templates** button under the *RESOURCES* section on the left menu.



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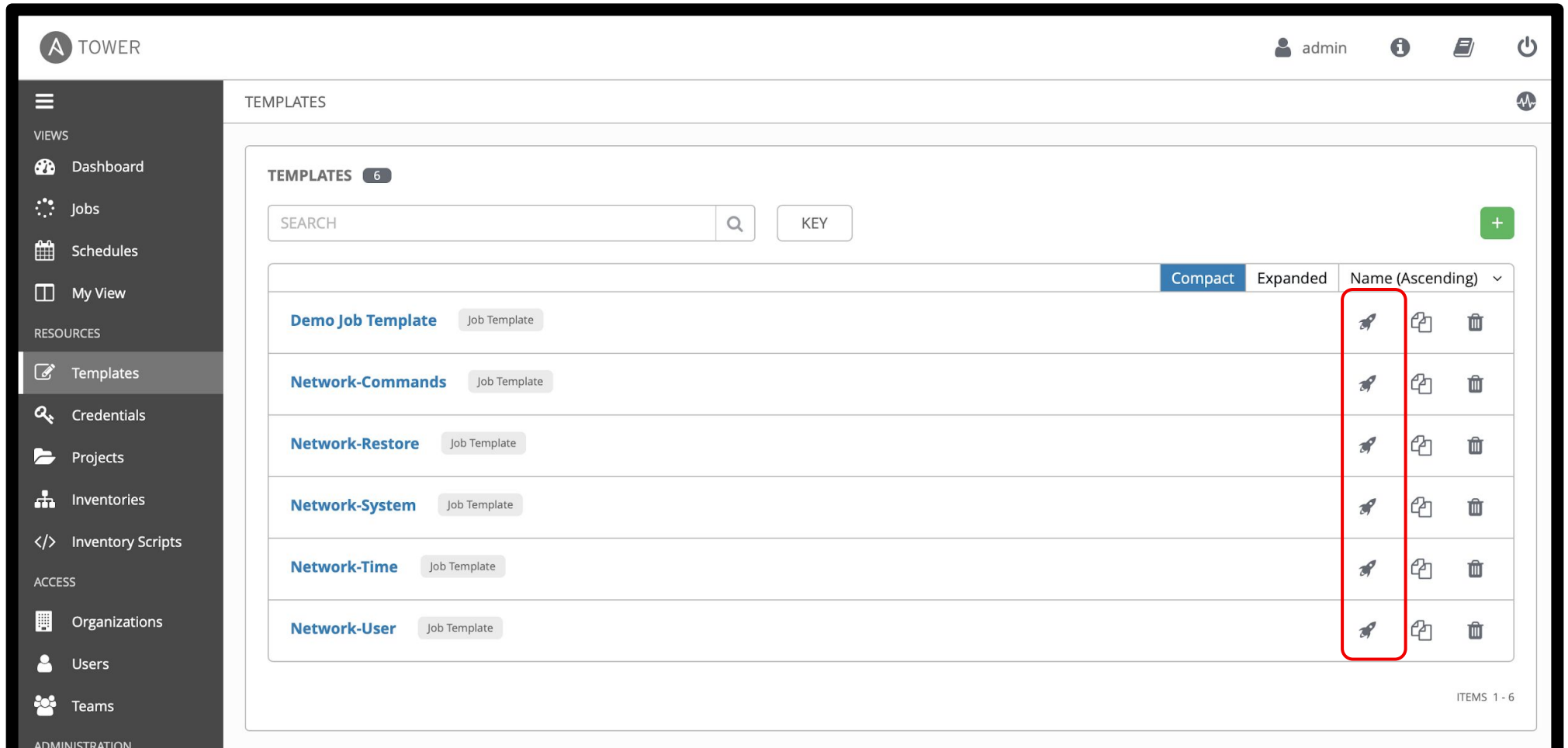
Executing an existing Job Template

Job Templates can be launched by clicking the **rocketship button** for the corresponding Job Template



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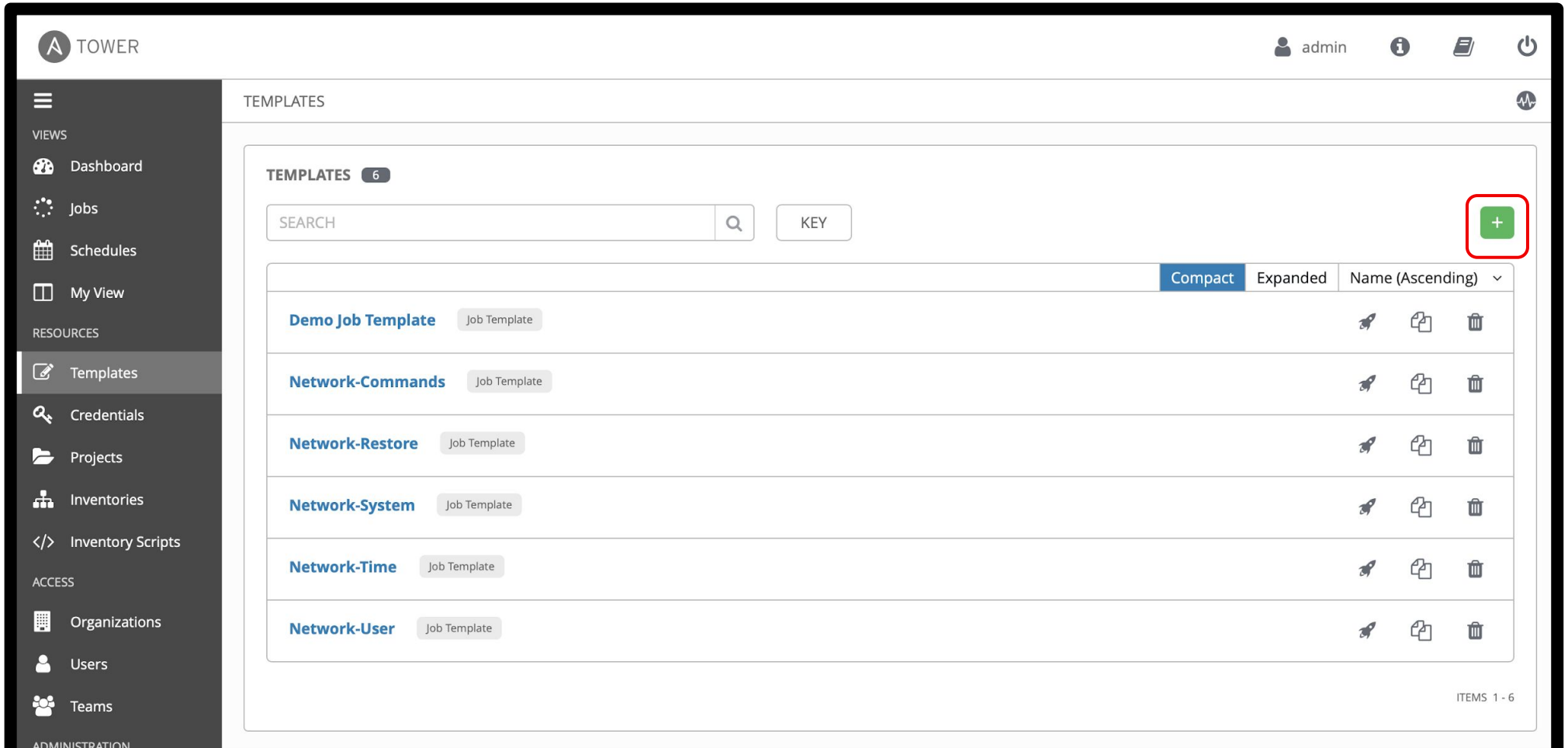
Creating a new Job Template (1/2)

New Job Templates can be created by clicking the **plus button** 



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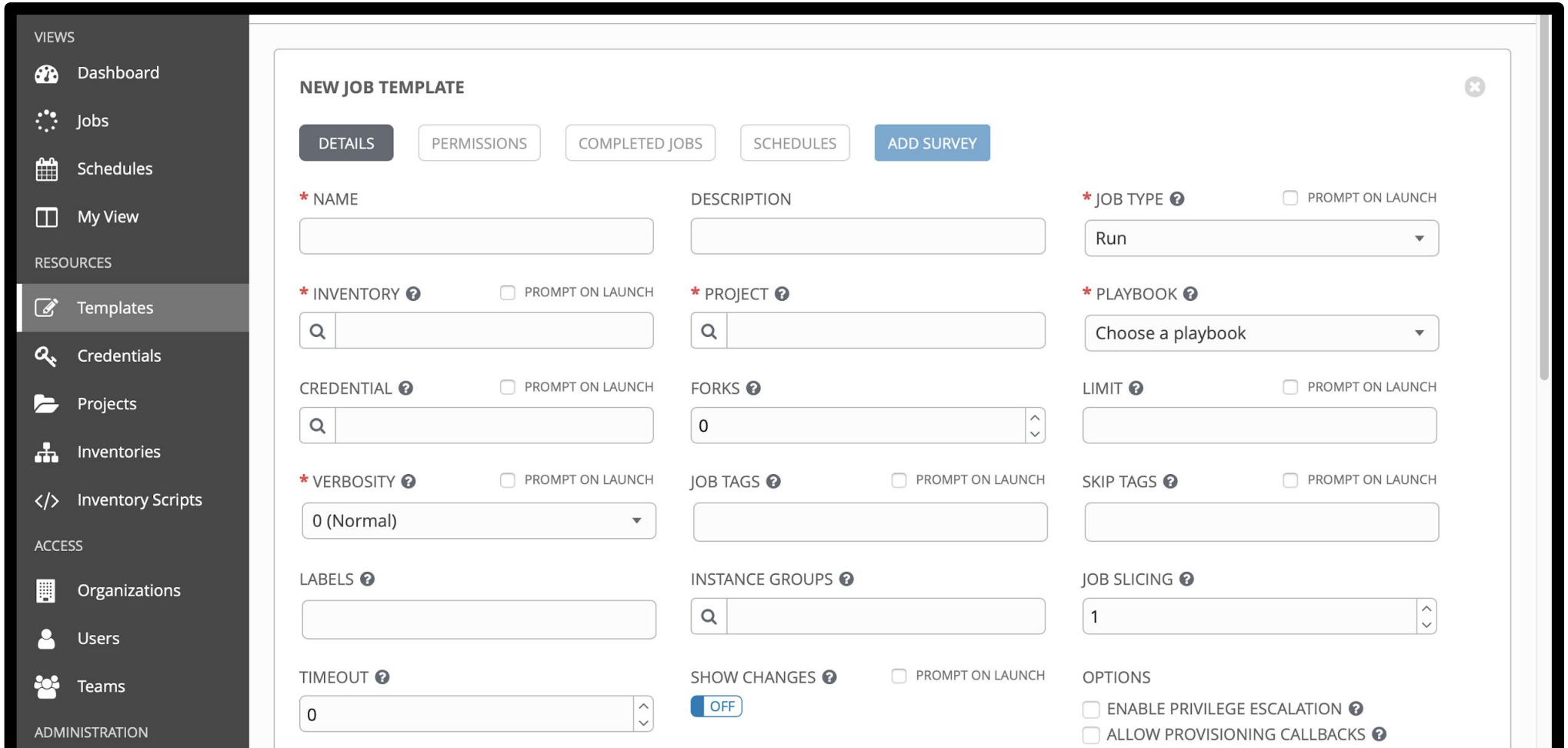
Creating a new Job Template (2/2)

This **New Job Template** window is where the inventory, project and credential are assigned. The red asterisk * means the field is required .



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Demo Time

Exercise 2.3

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Section 2.4

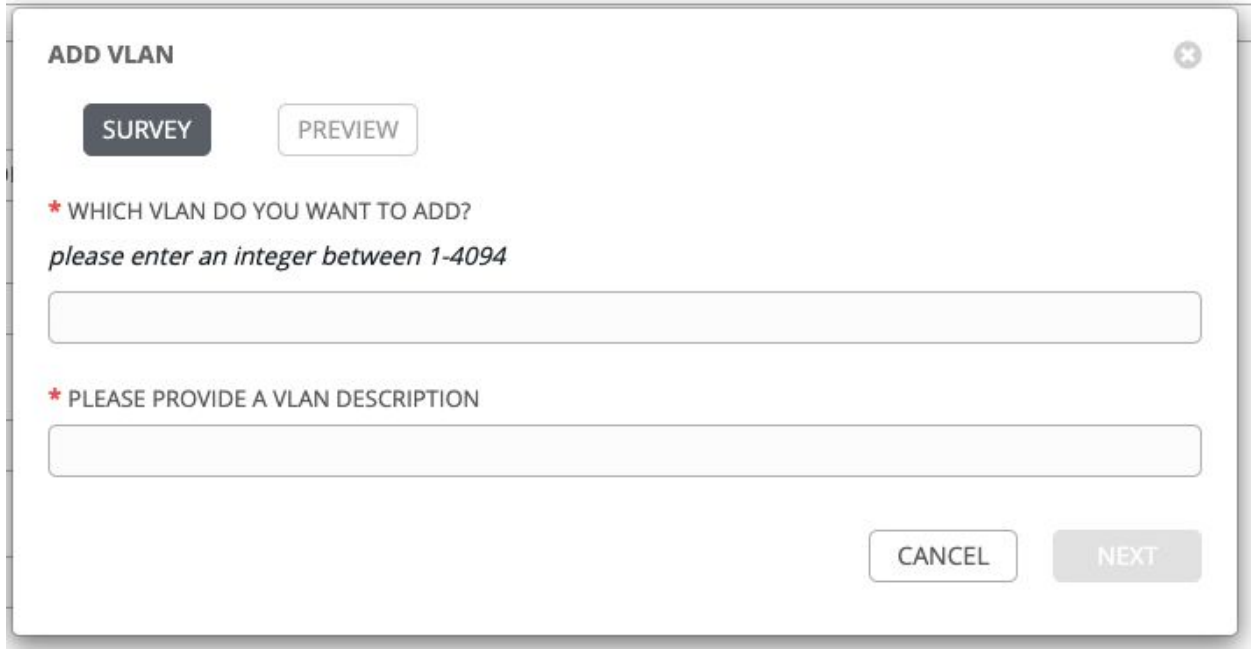
Topics Covered:

- Surveys

Surveys

Tower surveys allow you to configure how a job runs via a series of questions, making it simple to customize your jobs in a user-friendly way.

An Ansible Tower survey is a simple question-and-answer form that allows users to customize their job runs. Combine that with Tower's role-based access control, and you can build simple, easy self-service for your users.



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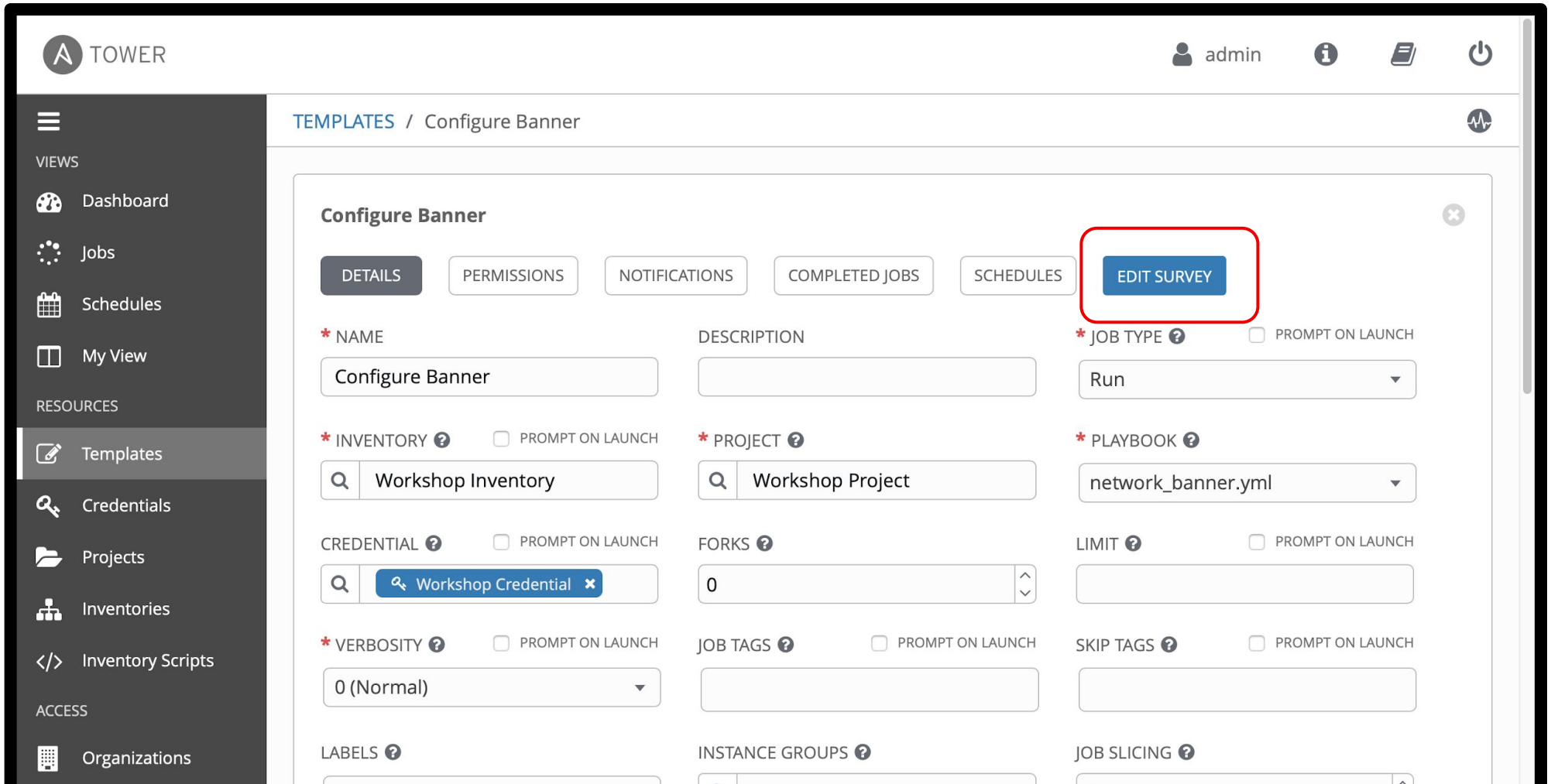
Creating a Survey (1/2)

Once a Job Template is saved, the **Add Survey Button** will appear

Click the button to open the Add Survey window.



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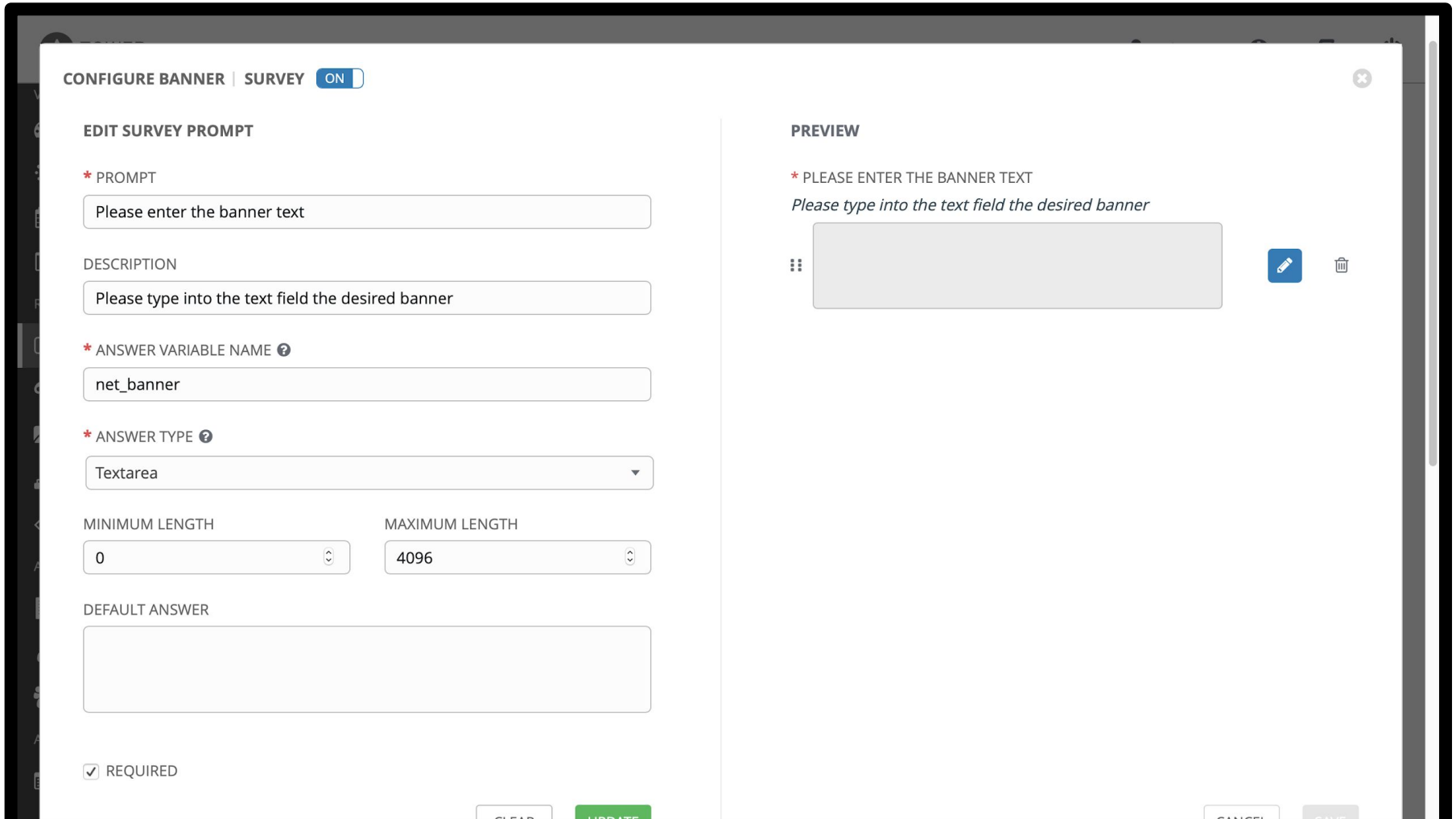
Creating a Survey (2/2)

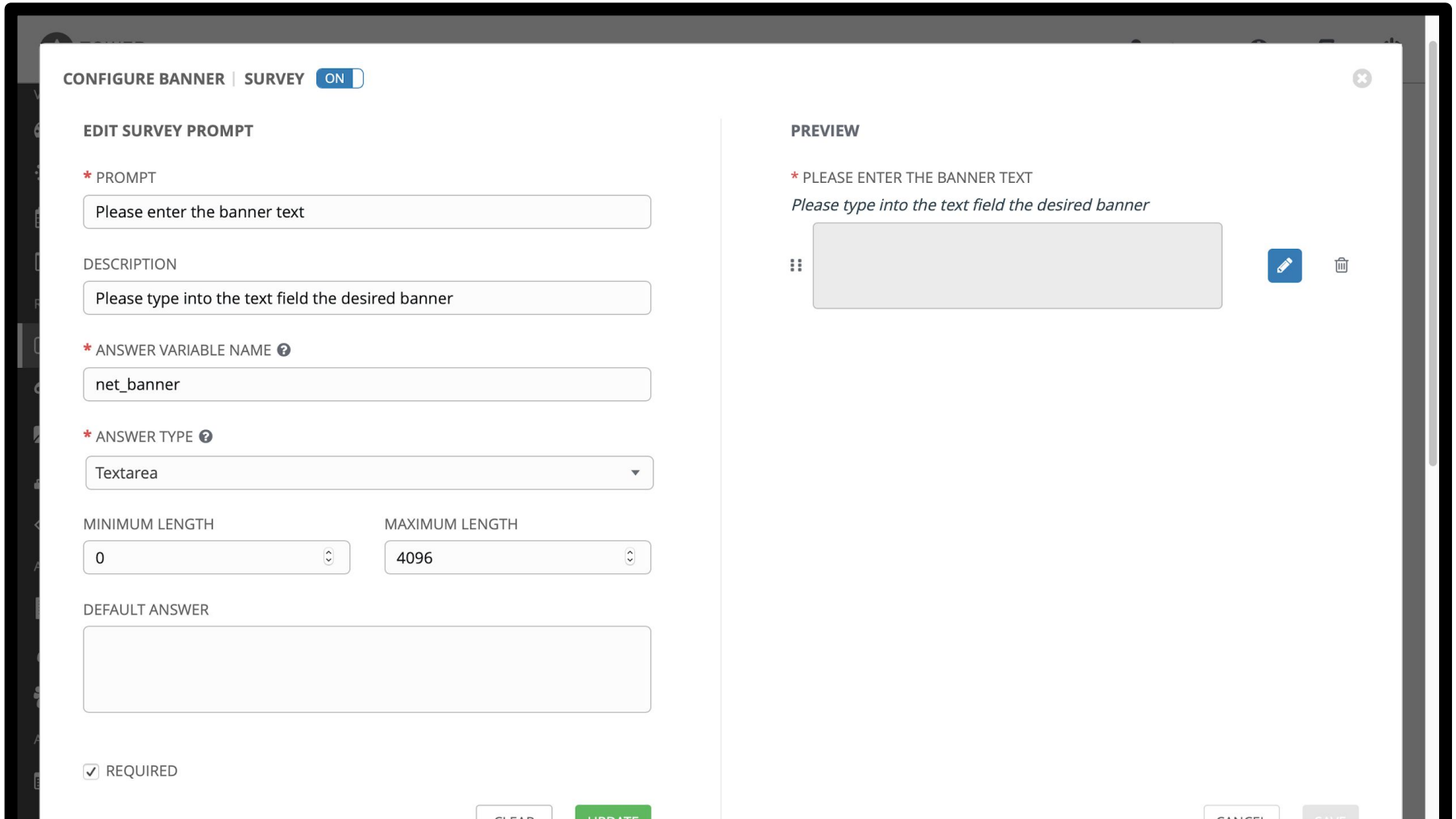
The Add Survey window allows the Job Template to prompt users for one or more questions. The answers provided become variables for use in the Ansible Playbook.



Red Hat

Creating a Survey (2/2)

The Add Survey window allows the Job Template to prompt users for one or more questions. The answers provided become variables for use in the Ansible Playbook.



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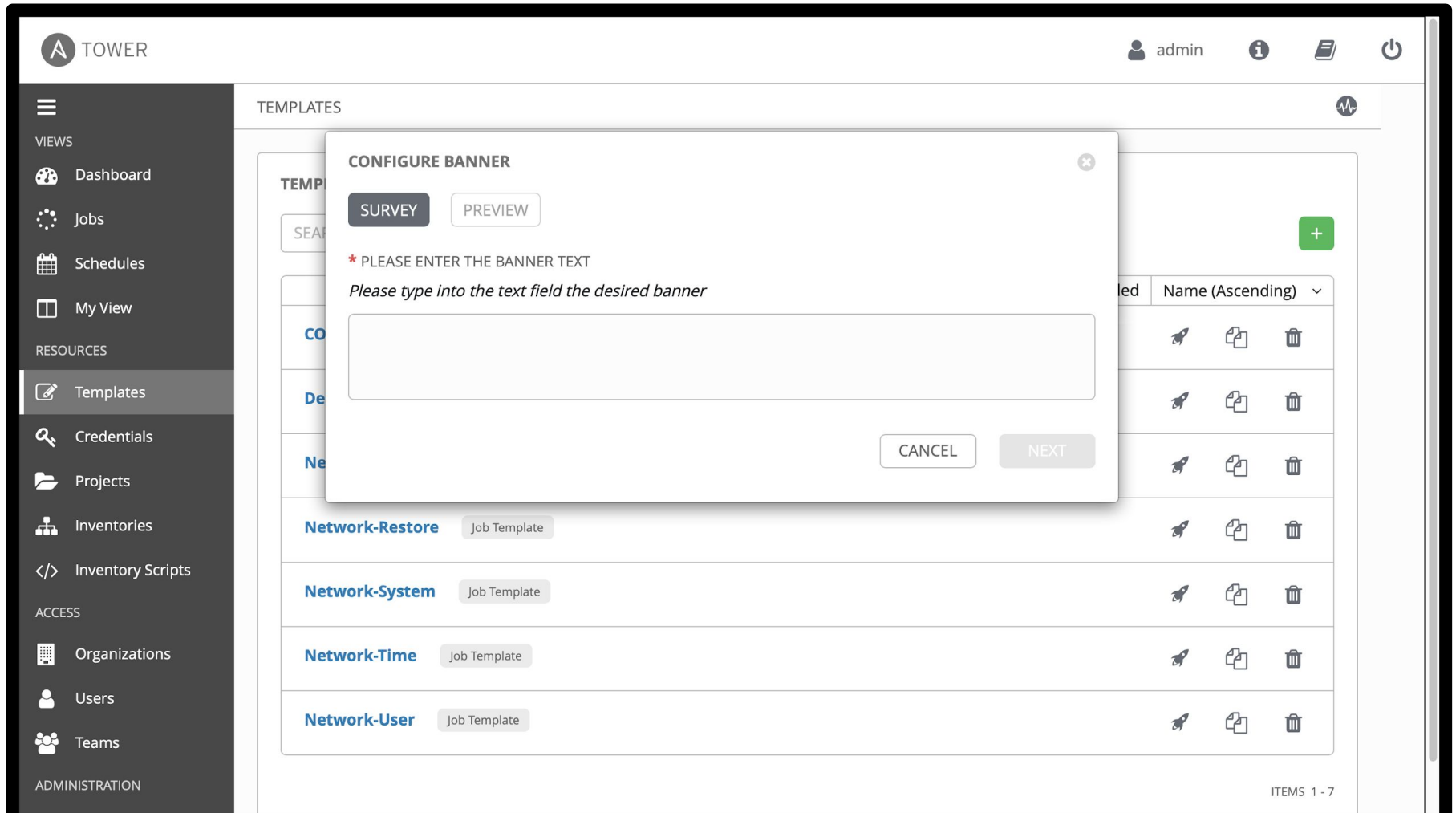
Using a Survey

When launching a job, the user will now be prompted with the Survey. The user can be required to fill out the Survey before the Job Template will execute.



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Exercise 2.4

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Section 2.5

Topics Covered:

- Role based access control

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Role Based Access Control (RBAC)

Role-Based Access Controls (RBAC) are built into Ansible Tower and allow administrators to delegate access to inventories, organizations, and more. These controls allow Ansible Tower to help you increase security and streamline management of your Ansible automation.

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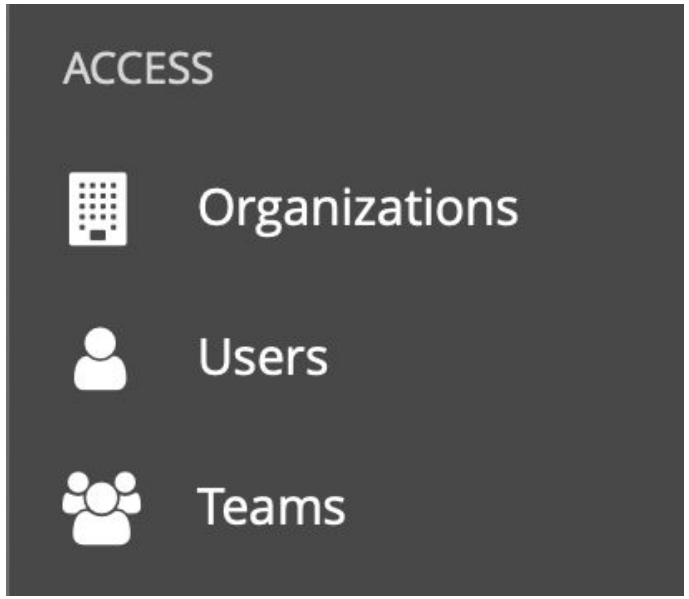
User Management

- An **organization** is a logical collection of users, teams, projects, inventories and more. All entities belong to an organization.
- A **user** is an account to access Ansible Tower and its services given the permissions granted to it.
- **Teams** provide a means to implement role-based access control schemes and delegate responsibilities across organizations.



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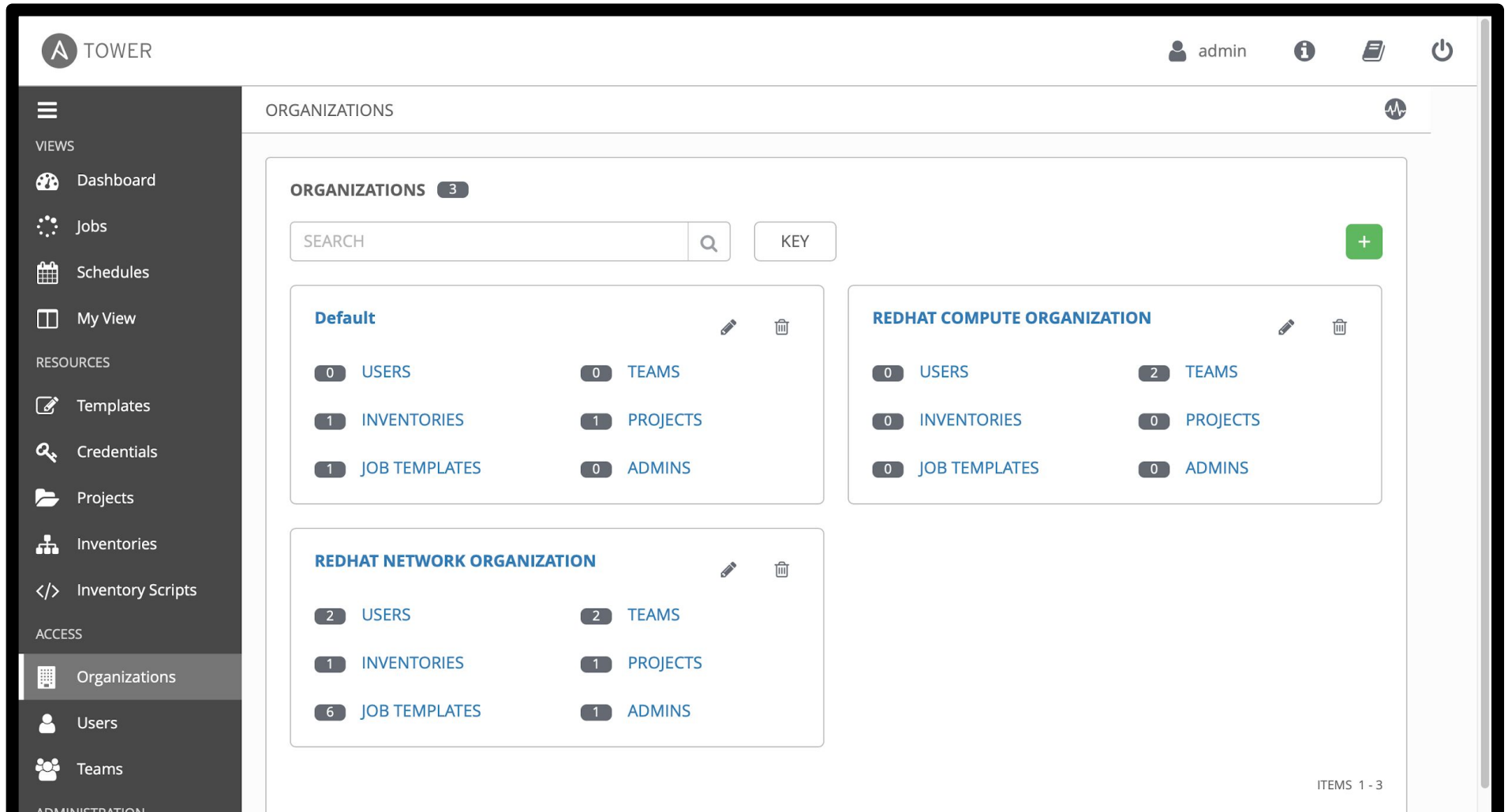
Viewing Organizations

Clicking on the **Organizations** button will open up the Organizations window

in the left menu



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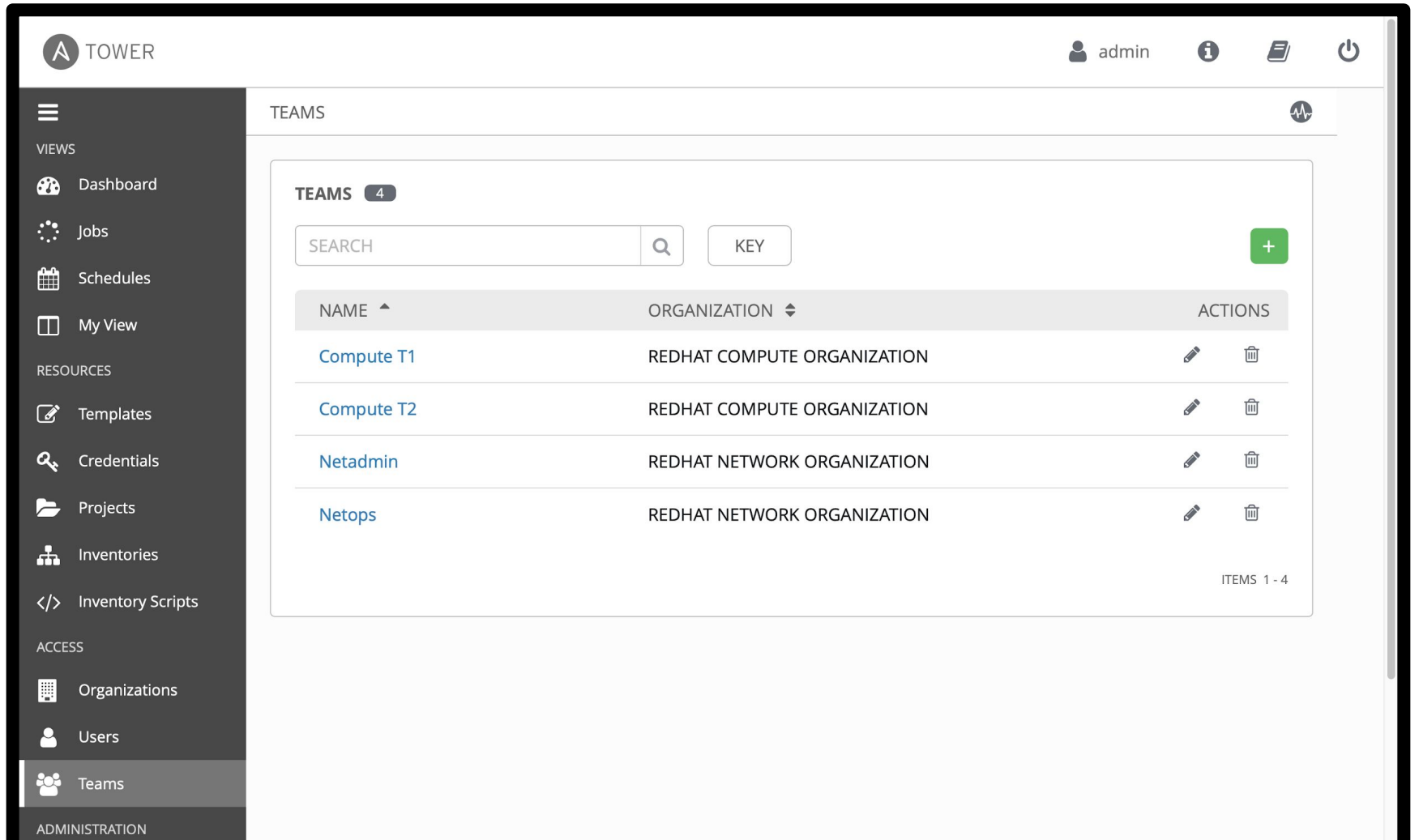
Viewing Teams

Clicking on the **Teams** button will open up the Teams window

in the left menu



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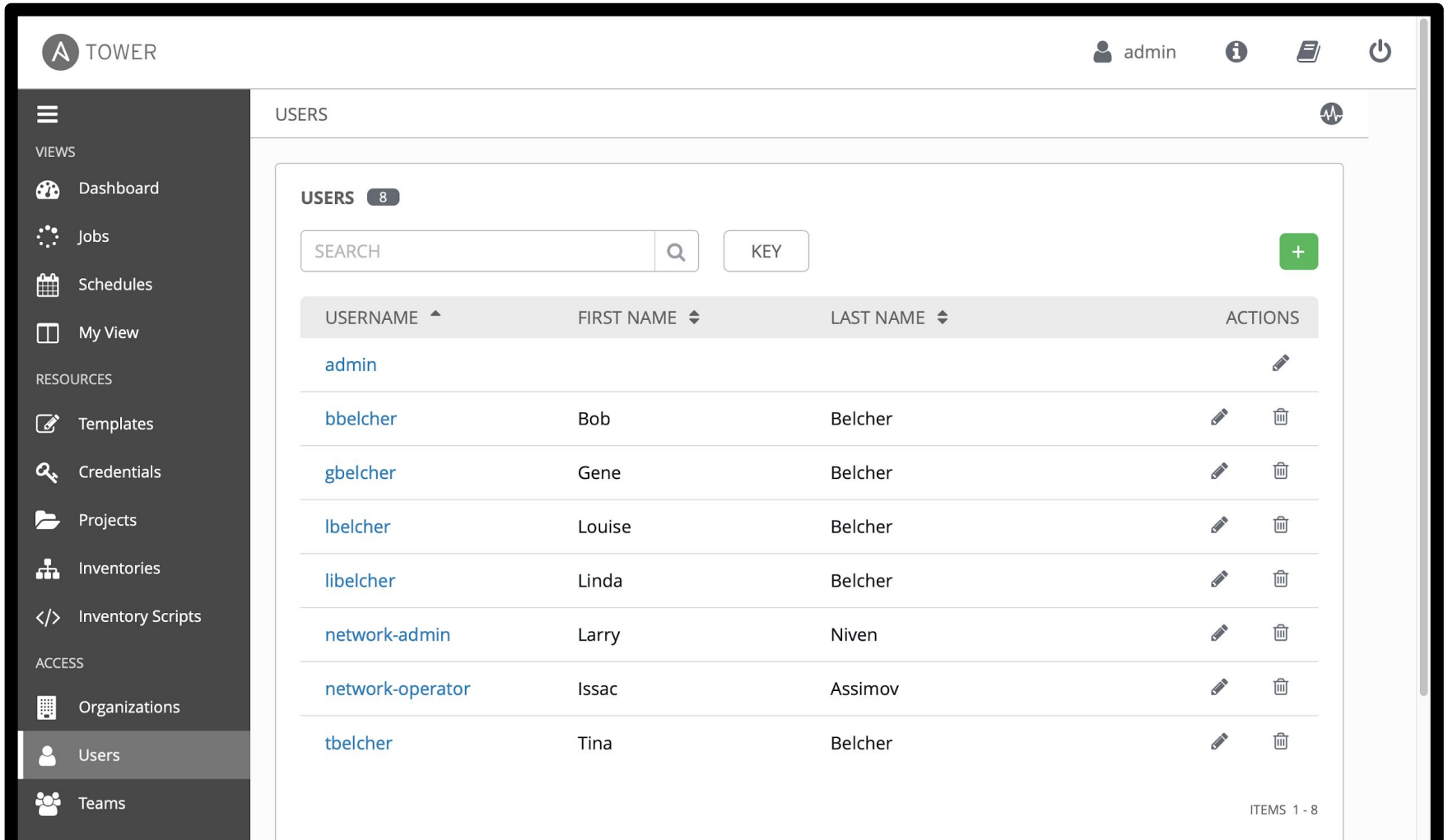
Viewing Users

Clicking on the **Users** button will open up the Users window

in the left menu



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Exercise 2.5

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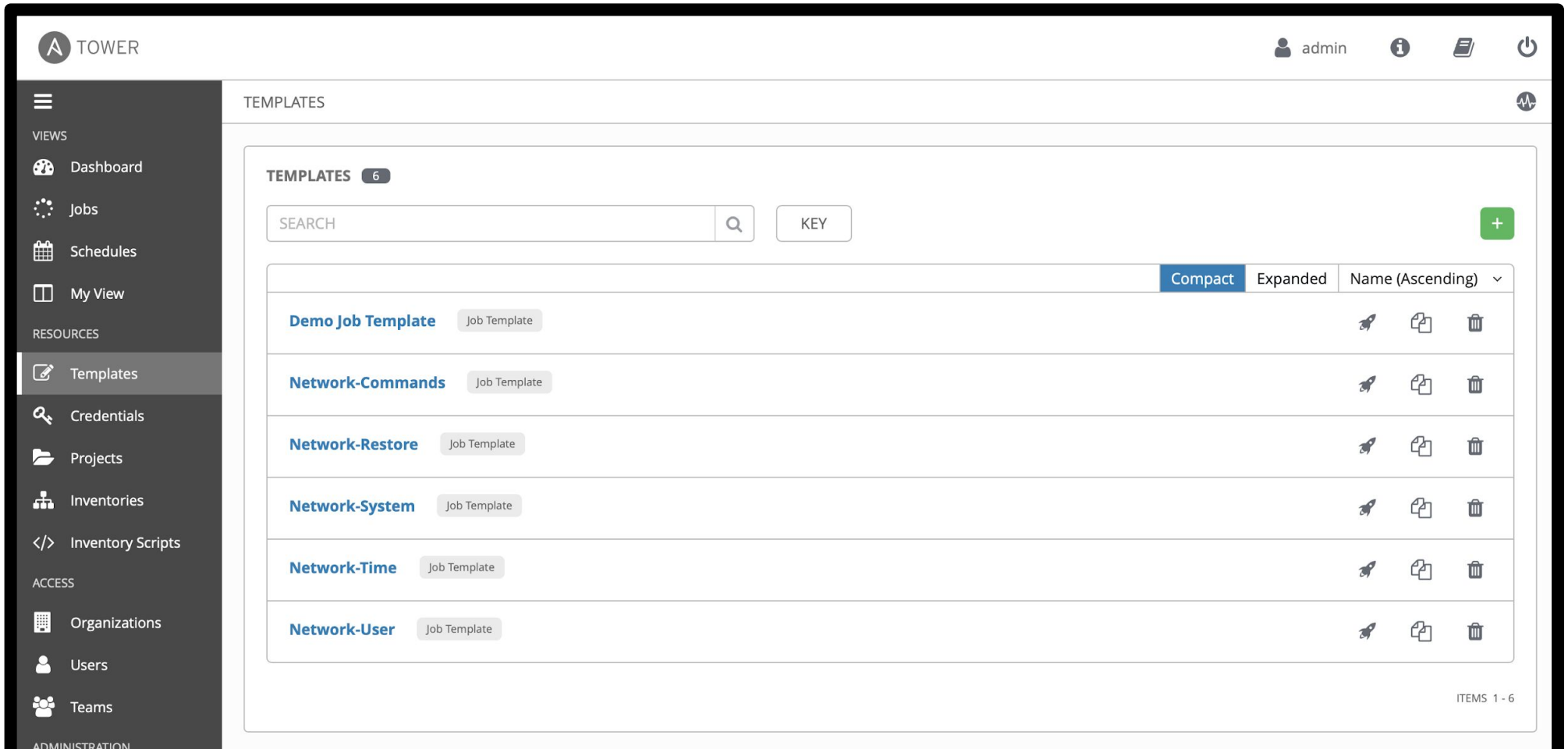
Section 2.6

Topics Covered:

- Workflows

Workflows

Workflows can be found alongside Job Templates by clicking the **Templates** button under the *RESOURCES* section on the left menu.



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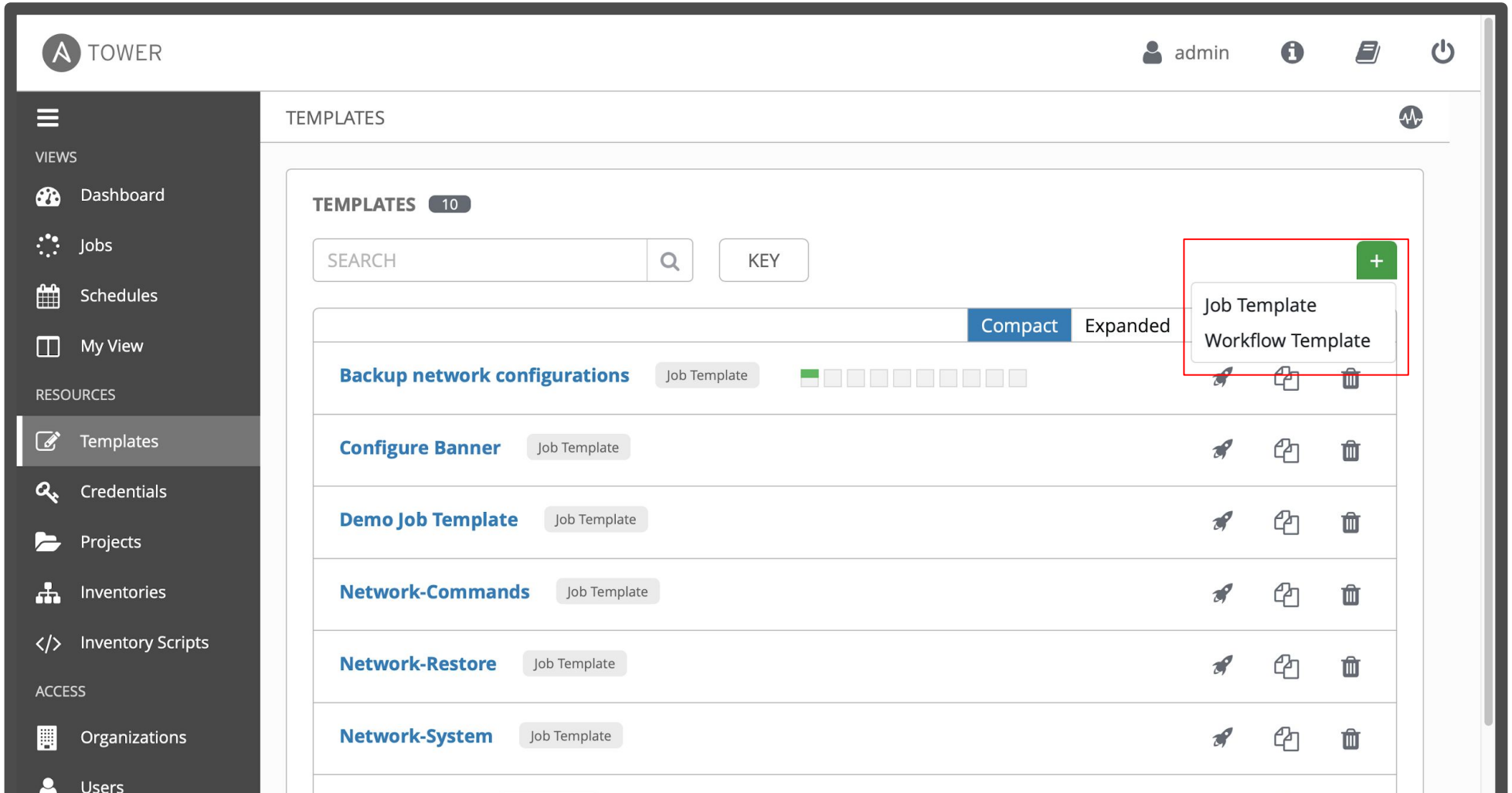
Adding a new Workflow Template

To add a new **Workflow** click on the green + button 

This time select the **Workflow Template**



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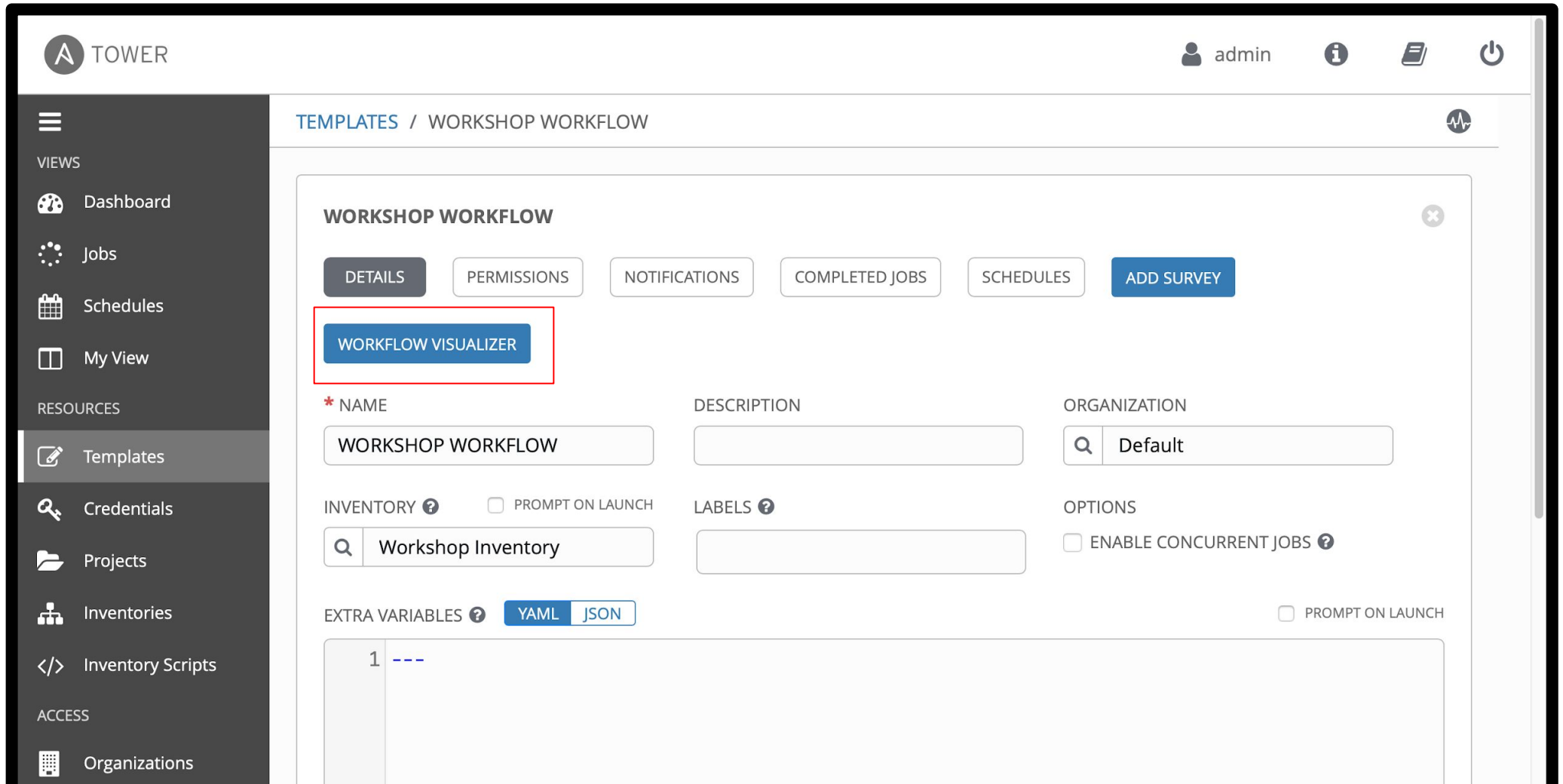
Creating the Workflow

Fill out the required parameters and click **SAVE.** As soon as the Workflow Template is saved the WORKFLOW VISUALIZER will open.



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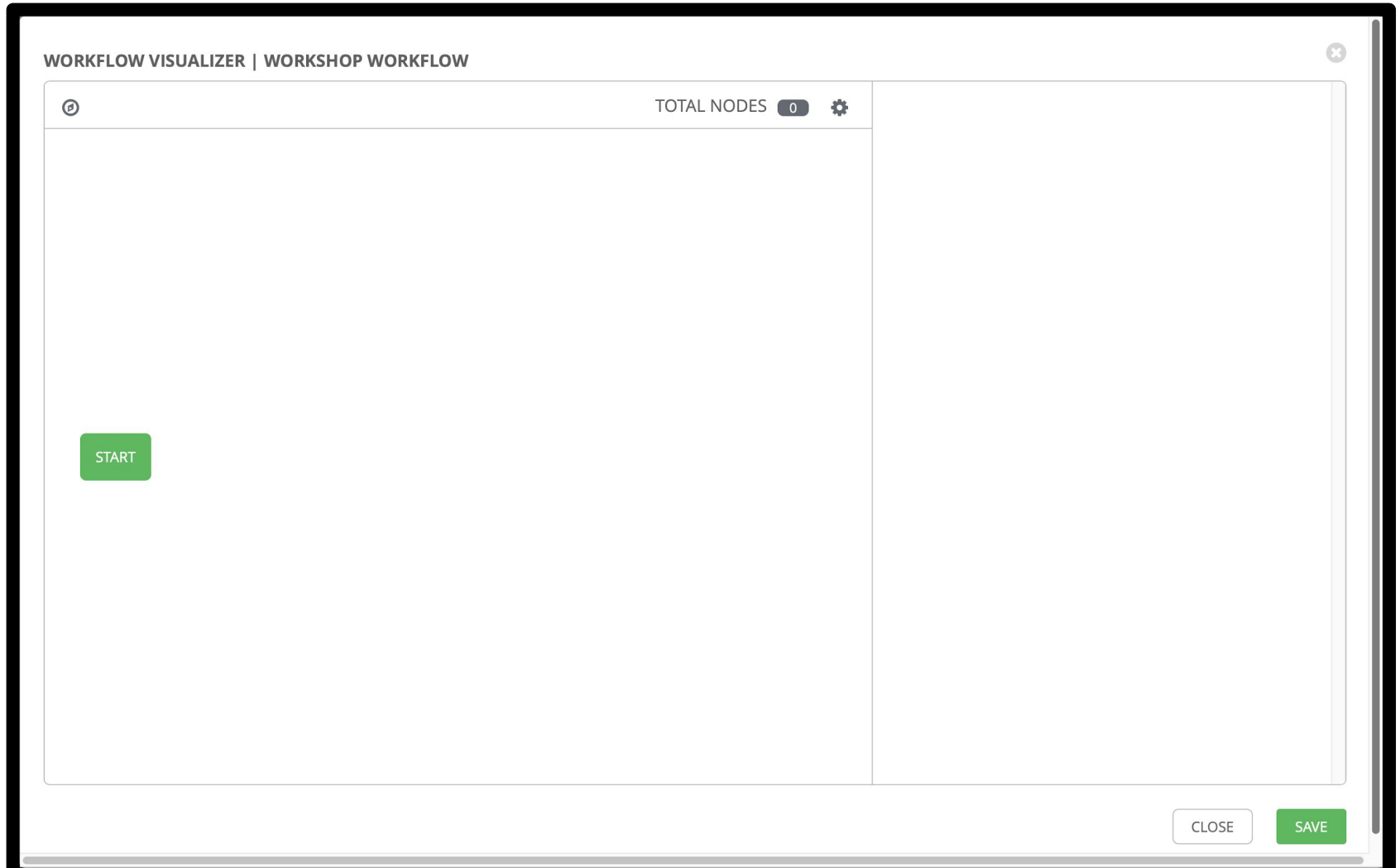
Workflow Visualizer

The workflow visualizer will start as a blank canvas.



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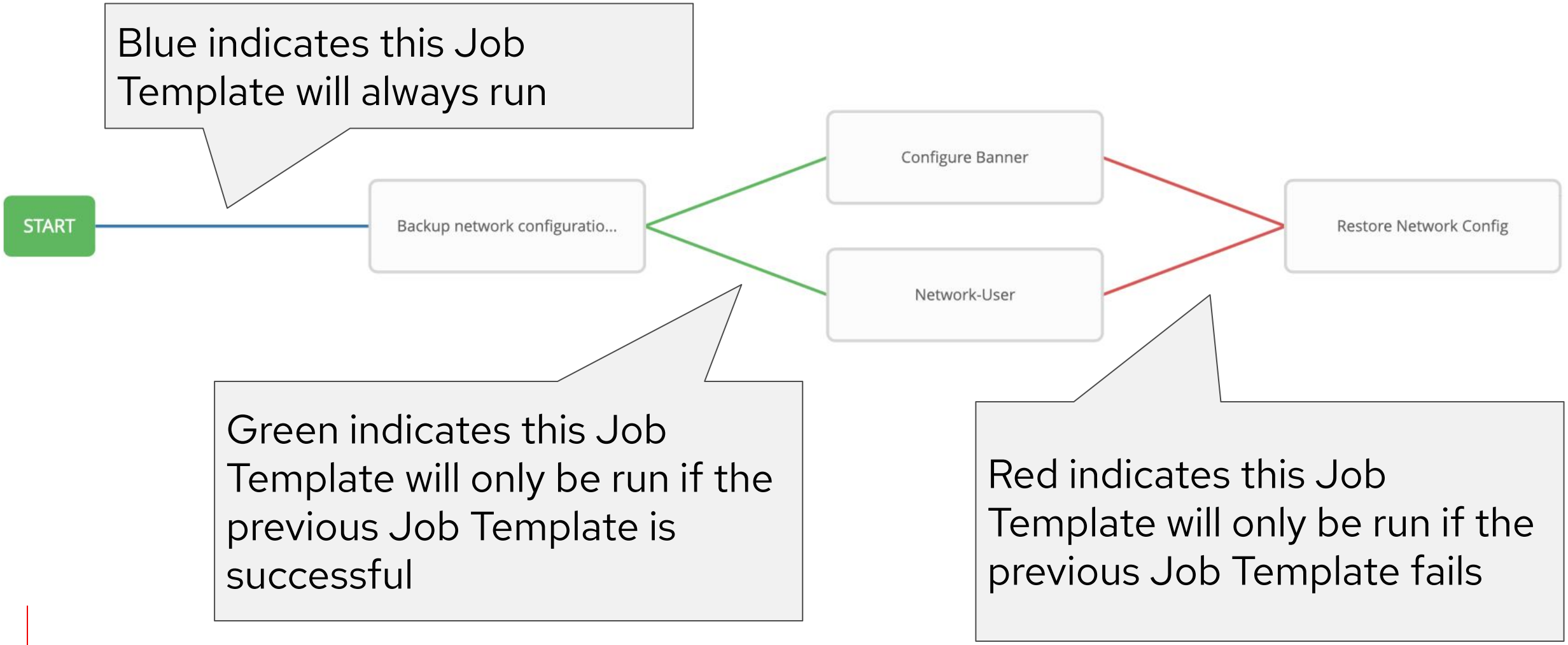
Visualizing a Workflow

Workflows can branch out, or converge in.

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Section 2.7

Topics Covered:

- Wrap-up


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Exercise 2.7
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Training at Red Hat

Customer return on investment from training

365% 3-year ROI

IDC conducted a study to explore how Red Hat® training courses impacted the skills, performance, and productivity levels of customers. They found that training for impacted IT professionals and developers consistently increases both individual capability and the ultimate business value of the supported technology.

Other key findings include:

- **44%** higher DevOps team productivity
- **34%** more efficient IT infrastructure teams
- **59%** faster to deploy new IT resources
- **76%** faster to full productivity, new hires already trained

IDC

Source: IDC Business Value White Paper, sponsored by Red Hat. Doc. #US46999720, December 2020
(*per employee trained numbers based on average of 130 staff members trained per year discussed during IDC interviews)

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Improve productivity with training in Ansible automation

Scale people, processes, and infrastructure

Red Hat
Ansible Automation Platform

A powerful foundation to build and operate automation across organizations. Prepare your teams with the right skills to make the most out of new technology investments.

59% faster
deployment of new IT resources

"Red Hat Training shows our DevOps team how to automate a repeatable task. They can write one playbook to execute a set of tasks that would have taken hours or days of time."

"With Red Hat Training it doesn't matter which engineer is engaged on a project. They are all using Ansible for automating tasks, allowing them collectively to be **five times as productive** ... This was not possible previously. As a result, they've definitely picked up the pace of productivity."

IDC

Source: IDC Business Value White Paper, sponsored by Red Hat. Doc. #US46999720, December 2020
(*per employee trained numbers based on average of 130 staff members trained per year discussed during IDC interviews)

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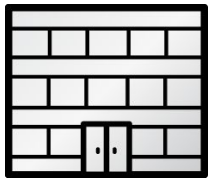
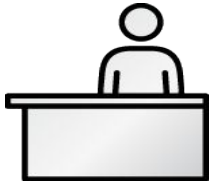
WAYS TO TRAIN



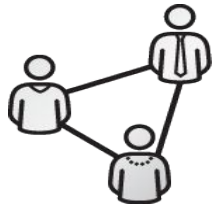
Onsite Training

Private On-site training and exams delivered at your location or at one of our training centers



Classroom Training

Training and test in a professional classroom environment led by Red Hat Certified Instructors



Virtual Training

Live instructor-led online training with the same high-quality, hands-on labs you'd find in our classrooms

Online Learning

90 days of access to course content and up to 80 hours of hands on labs – all available online, at your pace, and your schedule.

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RED HAT LEARNING SUBSCRIPTION

A prescriptive, reliable, learning solution for rapid skills transformation on Red Hat technologies

Simple, flexible, on-demand training

- 24x7 access globally, available offline
- Self-paced, unlimited access to Red Hat courses
- Access to content currently in development
- Updated content pushed as early releases
- Content spanning the entire Red Hat product portfolio
- Early access to completed chapters of courses

Red Hat
Learning
Subscription

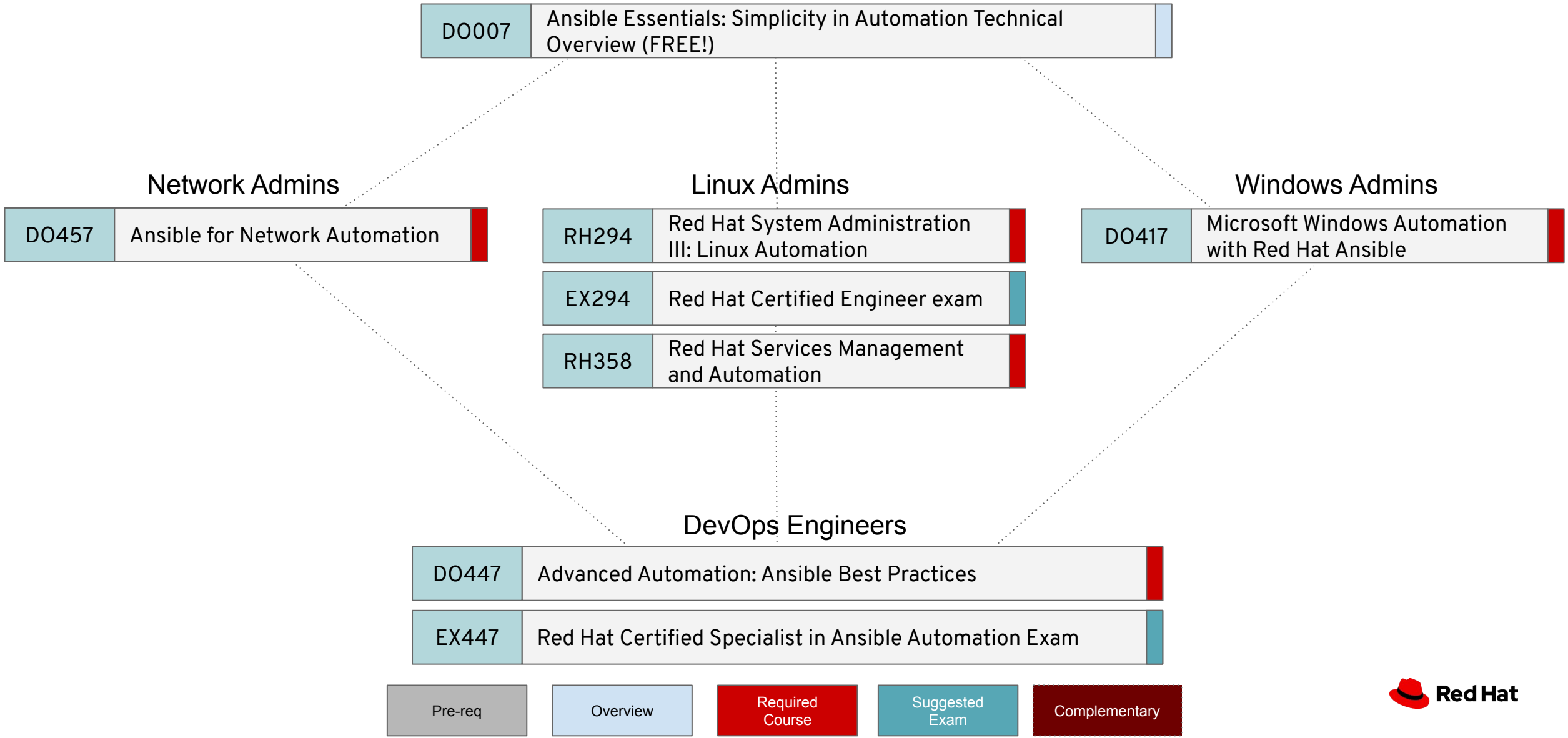
Red Hat

Red Hat Learning Subscription Evolution

Introducing a Premium subscription tier

Red Hat

Ansible Curriculum



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Thank you


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facebook.com/ansibleautomation


twitter.com/ansible


github.com/ansible

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